

the subject of a prior grant (*ante*, p. 51) within the Realm. But it is not every patent that would be invalid on these grounds that can be opposed. In order to enable the grant of such a patent to be successfully opposed two conditions are necessary.

*First Condition: An earlier Claim.*

The first of these conditions is that the applicant's specification must claim something that is already the subject of a claim<sup>1</sup> and not merely described in a British patent (*i.e. patented* in this country), including the case in which the application of prior date has reached the stage of the acceptance of the complete specification.<sup>2</sup> (As to a "prior grant," see *ante*, p. 51).

One may here note the exceptional case in which it would appear that a patent which would be otherwise valid may be successfully opposed. This occurs where the earlier specification is not merely insufficient in practical directions, but the claim is for an alleged invention that was incomplete and a failure. Such a specification would not render the subsequent patent invalid, and the applicant would be in law entitled to a patent for the whole invention (*ante*, pp. 27, 28). But as the Comptroller has no jurisdiction to inquire into the validity of the earlier patent, it appears that he must regard it as valid, and consequently confine the applicant to his improvement only as shown. See also *post*, pp. 148, 152.

*Illustrations.*

In *Von Buch's* application a claim was made for an invention described but not claimed in the opponent's earlier specification, *viz. Von Welsbach's* patent. The Comptroller directed that words should be inserted to the effect that the applicant's invention was for supporting "caps of hoods such as those for which Letters Patent were granted to *Von Welsbach*, No. 15,286 of 1885." *Held*, that the patent must be sealed, the earlier invention not having been *claimed*.<sup>3</sup> Gr. L. O. C. 42.

*Nahnsen's Pat.* 17 R. P. C. 203.

The applicant's patent was for improvements in nitro-glycerine safety blasting explosives. The claim was for "the manufacture of a

<sup>1</sup> *Von Buch's Application*, Gr. L. O. C. 42; *Bailey's Patent*, Gr. 270; *Bartlett's Application*, 9 R. P. C. 511; *Gozney's Application*, 5 R. P. C. 598.

<sup>2</sup> *L'Oiseau & Pierrard*, Gr. L. O. C. 37. See the Act of 1883, sect. 15, *post*, p. 490.

<sup>3</sup> There being no ground of opposition, *query* was there power of amendment? This point was not argued.

safety explosive from nitro-glycerine and a powder admixture containing 38 parts cellulose and 32 parts Chili saltpetre." The specification contained a statement that the applicant found that certain additions were useless, and that "only the proportions of the ingredients can improve the effect of the explosives without lowering their safety in the presence of fire-damp and coal-dust. . . . My new explosive is, as regards its composition, very similar to the coal carbonite 2, but it shows very great differences as regards its properties "

The opponents relied on *Newton's* Patent (No. 442 of 1869) of *Nobel's* invention. It claimed explosives made out of a certain range of proportions of ingredients. The claim was of a wide nature, and included apparently the applicant's invention. But the earlier specification did not disclose the very narrow invention of the applicant, nor how his powder could be made, nor that it would have the property of being "safe" as regards fire-damp. Nor did it disclose how "carbonite," which the opponents manufactured, could be made.

The opponents contended that, inasmuch as (1) the applicant's powder came within their claim, and (2) the grant would actually interfere with their manufacturing business, the patent should be refused.

*Held*, by the Deputy Comptroller, and on appeal by the Law Officer, that the invention was not "patented on an application of prior date," and that therefore the second ground did not avail to stop the patent.

*Webster*, A.G. (at p. 208), "The opponents have not satisfied me, nor, as far as I know, is there any authority, that the Comptroller or the Law Officer advising the Crown has got the right of stopping patents upon the ground that it has been called to their attention that the invention may be ultimately invalidated on the ground that it is not new; but the ground on which I am entitled to stop, and on which the Comptroller is entitled to stop, a patent, is that the invention sought to be protected has been patented on a previous application, that matter being brought to his attention by one of the class of persons who is entitled to appear, as laid down years and years ago by Lord *Herschell*, and subsequently reaffirmed by the decision of the Court of Appeal in *Tomlinson's* case a few months ago."<sup>1</sup>

### *Second Condition : Of Opponent's Interest.*

The second condition is that the opponent must have some interest in the earlier invention. This condition is not expressed in terms in the Act, but has been implied, because (1) the object of the

<sup>1</sup> See *ante*, p. 122.



enactment is to protect persons interested even as manufacturers,<sup>1</sup> and (2) the two other grounds of opposition are confined to persons interested.<sup>2</sup>

*Illustrations before 1899.*

*Insufficiency of Interest.*

Where opposition was entered in the name of the agent of the grantee of the earlier patent, it was *held*, that the opponent could not be heard; and leave to amend by inserting the name of the grantee was refused. *Heath & Frost's Pat.*, Gr. 290 (followed in *Hookham's Pat.*, Gr. L. O. C. 32).

Where the opponent manufactured under one of the earlier patents, both of which had run out, he was held not to be entitled to oppose (*Macvoy's Pat.*, 5 R. P. C. 285). So too the intention to work the invention claimed in the earlier patents has been held to be insufficient. *Bairstow's Pat.*, 5 R. P. C. 289.

*Sufficiency of Interest.*

The opponent had manufactured for eighteen years under a patent granted in 1872, but which had lapsed before the date of application. The patent of 1872 was put forward as the ground of opposition to an application in 1884. *Held*, that the opponent was entitled to be heard. *Glossop's Pat.*, Gr. 285.

An opponent who relied on an earlier patent of his own that had expired was held entitled to oppose in *Lanaster's Pat.*, Gr. 294.

When an opponent is entitled to be heard on the ground that he is or has been interested in one of the earlier patents, he can rely on the others, although he has no interest in them that would justify him in opposing on them alone. *Stewart's Application*, 13 R. P. C. 628 (in which the earlier decisions were approved).

Under the foregoing decisions it was possible for the patentee of an earlier patent to oppose a subsequent grant after his patent had expired and when he had no financial or legal interest in the earlier invention, and no interests at all that would be prejudicially affected by the proposed grant. Such a person did not oppose in fact, because he had nothing to lose. On the other hand, a manufacturer who produced articles made in accordance with the earlier expired patent (but never had an interest in the patent itself) had no *locus standi* to

<sup>1</sup> *Glossop's Patent*, Gr. 285; *Heath & Frost's Patent*, Gr. 290; *Hookham's Patent*, Gr. L. O. C. 32.

<sup>2</sup> *The Queen v. C. G. of Patents (Ex parte Tomlinson)*, 16 R. P. C. 242.

oppose, although all his trade might be interfered with by the subsequent grant; his only remedy was to present a Petition for Revocation, or invalidate the earlier patent by his defence in an action for infringement. It was shown by *Tomlinson's* case (16 R. P. C. 240) that no right of an uninterested member of the public to oppose existed. After that decision the question of *Tomlinson's* interest was discussed in *Meyer's Application* (16 R. P. C. 526).

In 1898 *Meyer* applied for a patent for improvements in looms. *Tomlinson*, the opponent, had been asked to manufacture and alter looms in accordance with an earlier *Meyer's* Patent of 1897. He proceeded so to do, but stopped work on finding that a licence was necessary under the Patent of 1897. He then searched and discovered *Austin's* patent of 1879. *T.* alleged that this patent of 1879 anticipated *Meyer's* of 1897, and would anticipate the proposed patent. *Webster*, A.G., held that *T.* had a right to oppose: "I intend to lay down no general rule which will in any way differ from the grounds of my decision in *Stewart's* case, or from those laid down by the Court of Appeal, namely, that a member of the public, as such, has not the right to walk into the Patent Office and say a patent ought not to be granted because the invention sought to be protected is the same as that covered by some previous earlier Letters Patent. . . . I do not intend to lay down any general rule; every case must be determined on its merits." After reviewing the facts, the learned Law Officer continued: "He" (*Tomlinson*) "has an interest in showing that they are identical, and I think that in such a case he is entitled to come before the Comptroller and say, 'This is a case in which I had commenced to work under an existing patent, but I find myself stopped; I am in danger of having that prohibition extended for a further period.' In my opinion, therefore, he has an interest with reference to that question, and I think that he is a person who is entitled to be heard, and as far as I lay down any rule, I lay down the rule that if there has been a *bonâ fide* attempt to carry out the invention sought to be protected by the person who desires to be heard in opposition, and proof that he may be damnified or affected by the application which he desires to oppose, he is entitled to be heard."

Although the learned Law Officer was careful not to express dissent from previous decisions (to which he had expressly assented in *Stewart's* case), it appears that this case completely alters the practice. It is submitted that the real object of the whole section allowing of opposition to grants of patents is to enable persons to stop a patent in



certain cases in which their trade, business, or interests would be interfered with, instead of leaving such to the tedious and expensive remedy of presenting a petition for Revocation. In the case of the second ground of opposition, the interest interfered with may be a manufacturing interest in making the invention that is the subject of the earlier claim, but a manufacturing interest in making the article proposed to be patented, if it do not include the subject of an earlier claim, is in itself not sufficient.<sup>1</sup> It appears that the decision in *Meyer's* case is really based on this ground, for the existence of *Meyer's* patent of 1897 did not affect the opponent's claim for consideration. The narrower propositions of the earlier cases appear to have arisen from not recognizing the intimate connection between the question of validity in Patent Law and the grounds of opposition under sect. 11.<sup>2</sup> Where the first and second grounds of opposition are both relied on and the opponent fail to establish the first, then the second is treated independently, and he cannot rely on it unless he show an interest in the alleged prior specifications.<sup>3</sup>

#### *Nature of Cases.*

This ground of opposition is that the applicant's invention has already been *patented* (i.e. the subject of a claim) in the country.<sup>4</sup>

Cases will logically fall into three classes, as the applicant's invention as claimed may be—

- (1) An improvement only on the earlier invention, but of such a nature that it cannot be used without it ;
- (2) Identical with the earlier one relied on by the opponent ; or
- (3) An improvement on, but including, the earlier invention.

In the first class, where it is found on the evidence and true construction of both specifications that there is no claim in the applicant's to anything the subject of a claim in the earlier patent, then there is no power to refuse to seal or to impose conditions, as the question of infringement is not within the jurisdiction of the Comptroller or

<sup>1</sup> *Nahsen's App.*, ante, p. 127, in which *Glossop's* case (ante, p. 129) was approved.

<sup>2</sup> It is not clear whether the effects of the decisions in *Macevry's Patent*, 5 R. P. C. 285, and *Lancaster's Patent*, G. 294 (both based on the supposition that the reason for opposition depended on interest as *patentee* instead of interest as *manufacturer*), can be obviated without legislation. The new procedure under the Act of 1902 will diminish the importance of this question.

<sup>3</sup> *J. & J.'s Appl.*, 19 R. P. C. 555.

<sup>4</sup> The case of foreign inventions antedated under sect. 103 is considered separately, *post*, p. 176.

Law Officers.<sup>1</sup> Nor is the opponent injured, as his manufacture would not be subject to the new monopoly, and he can sue for infringement when the applicant's invention is put into practice.<sup>2</sup>

Exceptional cases of doubt are dealt with *post*, p. 146.

In the second class the cases are comparatively rare ; for unless the inventions be obviously identical it is almost impossible to decide against there being such an improvement or alteration as would constitute a new invention : differences, apparently small, may involve great results. For illustrations see "Identity of Invention," *ante*, pp. 30-34. Where such identical inventions come before the Comptroller, they may be frequently traced to a common source, and so come under the first ground of opposition, viz. that the applicant's invention is alleged to be taken from the opponent. It is also useless for the applicant (from the point of view of his own interests) to proceed with a patent that would obviously be invalid.

It is only when the inventions are clearly identical that the sealing of a patent will be refused ;<sup>3</sup> in other cases it is allowed subject to such amendments as will exclude the earlier inventions from the applicant's claim. In *Todd's App.* (9 R. P. C. 487) *Webster*, A.G., stated the rule thus :

"In cases where the Law Officer is forced to the conclusion that there is no substantial difference between the invention or combination described in the applicant's specification and an earlier specification, it has not only been the practice, but it is the duty of the Law Officer to refuse the patent. . . . I have always, since I held my present position, acted on the principle that it is only in the clearest possible case that a patent ought to be stopped."

The learned Law Officer then discussed the alleged differences between the two inventions, and continued, "I have not to deal with subject-matter properly so called ; that is to say, supposing *Todd's* invention to have been the first invention brought before me, it would not matter whether it showed no subject-matter, if it was a claim to that which had not been done before ; I quite agree I have not to consider whether it is subject-matter or not. But when there is a previous anticipatory patent, it is necessary then to consider indirectly the differences, and without saying whether

<sup>1</sup> *Jones's Patent*, Gr. L. O. C. 34.

<sup>2</sup> *Newman's Patent*, Gr. L. O. C. 40.

<sup>3</sup> *Stubbs' Patent*, Gr. 298. For examples, see *Aire & Calder's App.*, 5 R. P. C. 345 ; *Daniels' App.*, 5 R. P. C. 413 ; *Wallis & Ratcliffs*, 5 R. P. C. 347 ; *Todd's App.*, 9 R. P. C. 487.



those differences form subject-matter or not, to decide whether the differences are sufficient to differentiate that which has gone before from that which is now claimed." <sup>1</sup>

The learned Law Officer did not think the Comptroller's general disclaimer sufficient, and refused the patent.

As soon as it is proved that the applicant's claim appropriates the earlier invention put forward by the opponent, then the jurisdiction to refuse the sealing arises,<sup>2</sup> and in deciding whether the patent may be sealed subject to amendments (the power to allow which is inherent in the power to refuse<sup>3</sup>) the Comptroller may take the question of subject-matter incidentally into consideration. "It is only in cases in which the Law Officer is satisfied that there is no difference which can be regarded as amounting to invention that the later patent can be stopped."<sup>4</sup> This difference may be apparently very small provided only that it involves invention (*ante*, pp. 34-37, 39, 45). Investigating such issues comes under the rule in *Todd's App.* (*supra*), and requires not only hearing evidence as to the state of knowledge, but deciding questions of mechanical equivalents.<sup>5</sup>

#### *Illustrations.*

The case of *Webb v. Kynochs* (*post*, p. 425) is a good illustration of considerable improvements not amounting to a new manufacture.

#### *Boult's Application*, 10 R. P. C. 275.

The application (No. 9139 of 1891) was for improvements in or relating to cellulose manufacture. The cellulose was treated as in paper-making, and at a certain stage of the process it was scraped off the drying cylinder. It might subsequently be used for wadding, antiseptic bandages, &c. The opponent's earlier specification claimed an invention of a similar nature in which the material was scraped off the drying cylinder when dry as a flimsy tissue.

The *Chief Examiner* (as deputy Comptroller) decided to seal the patent subject to reference and disclaimer.

On appeal to the Law Officer the sealing was refused on the ground of identity of invention.

*Rigby*, S.G. : "The only question before me is whether or not Letters

<sup>1</sup> If the differences distinguish the inventions, then the opponent is only entitled to have such a disclaimer as will exclude the inventions claimed in the earlier specifications.

<sup>2</sup> See *post*, p. 135.

<sup>3</sup> *L'Oisau & Piarard*, Gr. L. O. C. 39; *Marsden's Patent*, *post*, p. 135.

<sup>4</sup> *Smith's App.*, 13 R. P. C. 201 (20), per *Webster*, A.G.

<sup>5</sup> *Ibid.*, p. 201 (22).

Patent have been granted for this invention in respect of which Letters Patent are now applied for." After dealing with alleged differences in the material, the learned Law Officer continued: "Again, I do not think I have anything to do with the uses to which the substances may be applied. You cannot patent uses. You may advertise your material by pointing out a great number of uses, and trying to point out all the uses, if you think it worth while, to which it can be applied; but if once the material is given to the world, any one may use it for any purposes possible."<sup>1</sup>

The learned Law Officer then discussed the specifications, and pointed out that the real issue was whether there was invention in taking off the pulp at the precise moment indicated, and held that the ascertaining of that proper time by practice was not a matter of invention at all.

See also *Wylie & Morton's Application*, *post*, p. 138.

*Bridge's Application*, 18 R. P. C. 257.

The applicant's claims included what was old. It was admitted that amendment was necessary, and the insertion of a single combinative claim instead of the separate claims. The Comptroller decided that the specification should be amended to indicate more clearly the restricted scope of the invention; that there should be inserted a disclaimer setting forth what had been done before, and that a combination claim should be substituted for the two original claims. On appeal, the Law Officer refused to seal the patent on the ground that the difference between the applicant's and the opponent's earlier inventions, *i.e.* the new combination, was a mere putting together of old things without invention.<sup>2</sup>

*Mills's Application*, 18 R. P. C. 322.

The applicant claimed the manufacture of a certain ammoniated derivative from pure saccharin. The opponent showed this was anticipated by the earlier specification relied on. The applicant desired to be allowed to amend by claiming the manufacture from crude saccharin or saccharin of commerce. This latter invention was nowhere foreshadowed in the provisional. The sealing of the patent was refused both by the Comptroller and Law Officer.

See also *Harrild & Parkins's Application*, 17 R. P. C. 617.

Where the latter inventions may include improvements,<sup>3</sup> or are not obviously identical with the earlier ones, they fall into the third

<sup>1</sup> The Law Officer was here dealing with the question whether a use is a *manufacture*, not with the prohibition in the patent itself against others *using* the manufacture; see *ante*, pp. 1, 11 and Form of Patent, *post*, p. 569.

<sup>2</sup> See cases referred to, *ante*, pp. 44-46.

<sup>3</sup> E.g. *Sielaff's App.*, 5 R. P. C. 487.



class, for it has always been a general rule to allow the applicant the benefit of the doubt, as the opposite course might constitute an irreparable injustice.<sup>1</sup>

*Power to require Amendments.*

The third class of cases are by far the most numerous and important. As soon as it is found that the claims in the applicant's specification appropriate something claimed in the earlier specification put forward by the opponent, the power to refuse to seal arises under section 11 (1). But in practice, in the majority of cases such grants are not refused; for there is a power of allowing the offending claims to be amended or disclaimers to be inserted so as to protect the opponent, by confining the claims to the improvements only.<sup>2</sup> This power of amendment "arises inherently from the statutory right to refuse the grant;"<sup>3</sup> it is exercised, even in cases where the amended claim is of doubtful validity, because a refusal to seal being final, if based on erroneous views, might work great injustice, but the grant would leave the question open for future decision.<sup>4</sup>

But where it is not proved that the applicant's claims appropriate the earlier invention, the question of public interest gives no ground for amending a specification. Neither has the Comptroller or Law Officer authority to amend by striking out a claim because it invites people to infringe an earlier patent, or because it includes more than the applicant is entitled to claim; but when once it has been proved that one of the applicant's claims appropriates what has been already patented, it is thereupon open to the Comptroller to strike out the claim objected to as disclosing no subject-matter, as a condition of allowing the patent.<sup>5</sup>

The rule has been more recently enunciated by *Finlay*, S.G., in *Marsden's Patent*, 13 R. P. C. 88, in the following terms:—

"There are certain specified grounds of opposition mentioned in the Act, upon which the sealing of a patent may be refused if they are established. If the patent of the applicant is framed in such a

<sup>1</sup> *Russell's Patent*, 2 De G. & J. 132; *Spence's Patent*, 3 De G. & J. 523; *Tolson's Patent*, 6 De G. M. & G. 422; *Welch's Patent*, Gr. 301; *Cumming's Patent*, Gr. 277.

<sup>2</sup> *Vezoman's Patent*, Gr. L. O. C. 40; *Adams's App.*, 13 R. P. C. 549.

<sup>3</sup> *L'Oiseau & Pierrard*, Gr. L. O. C. 40.

<sup>4</sup> *Stubbs's Patent*, Gr. 298.

<sup>5</sup> *Webster's Patent*, 6 R. P. C. 164.

way as to make it improper that it should be sealed as it stands, then the Comptroller or the Law Officer is perfectly entitled to say, 'I shall direct the sealing of this patent only on condition that the specification is amended by reference to a previous patent; so as to render it proper that it should be sealed;' but I do not see what jurisdiction I should have to direct a reference to a previous patent, except under such circumstances as those I have indicated."

(The three preceding paragraphs have no application to amendments under the Act of 1902, *ante*, p. 116.)

Amendments may be allowed even in the title, description, and claims, to confine the claims to the differences between the inventions, so long as there is "in the provisional a reasonably direct indication of the actual improvement which it is ultimately desired to protect."<sup>1</sup>

But in cases where the claims in the applicant's specification differ slightly from a number of claims in the earlier specification, a number of amendments will not be allowed to save a small difference between the applicant's and the earlier invention; there is no rule that amendments will always be allowed in order to save a patent.<sup>2</sup> If it be doubtful whether the small differences really constitute an invention at all, the patent may be allowed lest an injustice be done to the applicant; but in such a case claims which, by the use of general words, appear to cover earlier inventions will be struck out, and the applicant confined to his claims for the differences.<sup>3</sup> But if the specification be so framed that the claims include the earlier specifications, amendments will not be allowed to confine the claims to the small differences to which the applicant might have confined his claims in the first instance.<sup>4</sup> Nor will amendments be allowed which have the effect of making the claim be for something not in the provisional specification.<sup>5</sup> It is the duty of the patentee to frame his claims properly; if he claim more than he has described in the body of the specification, and thereby include the earlier invention, it is within the discretion of the Comptroller to refuse the patent instead of allowing it with a disclaimer.<sup>6</sup>

<sup>1</sup> *Chandler's Patent*, Gr. 272.

<sup>2</sup> *Thomas & Prevost's App.*, 16 R. P. C. 70.

<sup>3</sup> *Hamilton's App.*, 19 R. P. C. 35.

<sup>4</sup> *Lupton & Place's App.*, 14 R. P. C. 261.

<sup>5</sup> *Lancaster's App.*, 20 R. P. C. 368.

<sup>6</sup> *Garnett's App.*, 16 R. P. C. 156.



*Illustrations.*

In *Tattersall's Patent* (9 R. P. C. 150) the application (No. 5429 of 1890) was for "A new or improved air-compressor or blower." This blower consisted of a V-shaped chamber in the apex of which a vibrating flap was suspended, the oscillation of which drew in the air at one side and expelled it at the other. To discharge the air at an approximately uniform pressure, the air was passed through a surrounding casing or receiver. The claim was for "An air-compressor or blower constructed with a vibrating blade within a vee-shaped chamber communicating with a receiver, substantially as herein shown and described and illustrated in the accompanying drawings."

The opponent relied on a prior patent (No. 10,759 of 1884) for "improvements in apparatus for ventilating purposes." The earlier patent had inlet and outlet valves of an exhaust chamber, with an oscillating shaft and vane. The Chief Examiner (as deputy Comptroller) decided to seal the patent, but with a specific reference to and disclaimer of the opponent's patent, on the ground that the earlier patent was confined to ventilating purposes, whereas the applicant's was not.

The opponent appealed in order to have the sealing refused altogether. The applicant argued on appeal that his receiver to render the pressure of air uniform was a distinguishing improvement.

*Webster, A.G.:* "I consider this an extremely difficult case, and if I had to support the decision of the Chief Examiner for the reasons given by him I should not agree with him, for I certainly come to the conclusion that if we are to take the apparatus as being identical in the sense that it is identical in all its parts, the appellant's case would be a very strong one for saying that this patent ought not to be sealed. I shall never hesitate to stop a patent in a case in which I think there is no substantial difference; but I must remember the governing principle which has operated upon the minds of law officers for a very long time, namely, that if they can preserve and safeguard the interests of prior patentees in a case in which it is doubtful as to whether or not the second patent does cover exactly the same ground as the first, they ought to do so for the reason that the granting of a second patent, though it may, and undoubtedly does, at times commercially do harm to an earlier patent, yet still it is not anything like so serious an injury as to stop a patent." The learned Law Officer then expressed an opinion that the receiver was of the essence of the combination as the applicant's claim; that, it might be an improvement on and also an infringement of the earlier one. He also held it to be a case for express disclaimer by reference of the

earlier patent.<sup>1</sup> As he did not approve of the grounds on which the Examiner had acted, no costs were given.

*Wylie v. Morton's Application*, 13 R. P. C. 97.

The applicant's specification described an alleged invention for "improvement in dyeing certain colours on cotton yarns and fabrics." The specification described a process in which oxide of chromium and oxide of iron were used in certain proportions, and the materials were to be treated with mixed solutions of bisulphite of chromium and bisulphite of iron. The claim was for "The use of bisulphite of chromium and bisulphite of iron, substantially in the manner and for the purposes hereinbefore described." The earlier specification (*Gatty's*, No. 11,456 of 1884) put forward by the opponent described the dyeing of fast shades from olive and brown by fixing thereon oxides of chromium and iron in various proportions. The materials were treated with mixed solutions of any soluble salt of chromium with any soluble salt of iron; the claim was for "dyeing certain fast and permanent colours on cotton yarns and fabrics by fixing upon the said yarns or fabrics a mixture of oxide of chromium and oxide of iron, substantially in the manner described."

The Comptroller found that the applicants' claim included the earlier invention, but there were certain improvements in the use of bisulphites not in the opponent's. He allowed the patent subject to a specific disclaiming reference.

On appeal, the Law Officer, *Finlay*, S.G., found on the evidence that the applicants had not shown such advantages in their process as to constitute it a patentable improvement on the earlier invention. "It seems to me that all that the applicants have done is to take one out of the many salts of chromium, and one out of the many salts of iron, namely, the bisulphite in each case, and to propose to use that with results which they suggest are better, and which the opponent says are worse, than those obtained by the salts of chromium and of iron which are used by *Gatty*." Sealing refused. Five guineas costs.

*Insertion of Disclaimers.*

When an amendment or disclaimer is drawn that has the effect of excluding from the applicant's claims the opponent's invention, the opponent's interests are satisfied;<sup>2</sup> for, had the specification been originally drawn as amended, the opponent's case would have failed.

<sup>1</sup> The question whether the differences between the inventions constituted a patentable manufacture (*ante*, p. 39) was, of course, unaffected by this decision.

<sup>2</sup> For illustration, see *Cooper & Ford's Patent*, Gr. 275.



and no power to amend have arisen. Amendments or disclaimers may be drawn in several ways. The most scientific method is to amend the specification directly by altering the language of the specification,<sup>1</sup> or by striking out a claim, or part of a claim. Another plan is to insert a disclaimer by means of a general reference to what has been previously claimed in prior specifications. A third is by a specific reference to prior specifications, quoting their number,<sup>2</sup> and names of the patentees. The effect of amendment by a general reference will be generally to narrow the construction of the claims.<sup>3</sup>

A specific reference is usually in the following form: "I am aware of Letters Patent No. — of 19—, granted to A. B., for, &c., and I do not claim anything claimed therein, but what I claim is, &c."

The advantages of a specific reference are, first, it is the *easiest* method of disclaiming anything covered by the earlier patent;<sup>4</sup> secondly, it does not prejudice the rights of either party from the point of view of validity or infringement, for if it subsequently appear that the earlier claims were not as wide as the opponent believed them to be, the specific reference to a corresponding extent has a narrower effect, and leaves the applicant a wide field if he find it advisable thereafter to seek for a wider interpretation for his claims.

On the other hand, it is not a satisfactory method of protecting earlier rights.<sup>4</sup> The fact of the reference having been given shows that as it originally stood the specification claimed something included in the earlier patent and was therefore "subject" to it. Hence a specific reference depreciates commercially the applicant's rights,<sup>5</sup> for the probability is that the claims, although narrowed by the reference, are for something that cannot be used without using the original invention put forward by the opponent. Now, if it subsequently appear that the alleged "master patent," to which the specific reference is given, was not so wide as was thought, then an injustice would have been done to the applicant by the depreciation of his invention, and also to the public by giving people reason to think that in the opinion of the officials the users of the later invention would be liable for royalties to the patentee of the earlier. Again, if one master patent alone be put forward and a reference be given

<sup>1</sup> See *ante*, pp. 87, 91, 97, 98.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Adam's App.*, 13 R. P. C. 549.

<sup>4</sup> *Anderson & McKinnell*, Gr. L. O. C. 25.

<sup>5</sup> *Wallace's Patent*, 6 R. P. C. 134.

to it, people will be apt to think that there are none others in a like position. When a general reference is given to the earlier invention, and a disclaimer is inserted by quoting the actual words of the earlier claim without identifying the earlier specification, the public cannot be misled into thinking that the earlier patent is the only master one, and the opponent's interests are protected. To justify a specific reference there should be either evidence,<sup>1</sup> or an admission by the applicant,<sup>2</sup> that the earlier specification governs the later one. In doubtful cases such a course should be taken as will most effectually safeguard the interests of both parties.<sup>3</sup>

#### *Illustrations.*

In the case of *Everitt's Patent* (No. 16,433 of 1884), which was treated as a "master patent," references were required in some later patents, e.g. *Lynde's Application*, 5 R. P. C. 664, *Wallace's Patent*, 6 R. P. C. 134. It was then decided in *Automatic Weighing Machine Co. v. Knight*, 6 R. P. C. 299, that *Everitt's* patent could not bear the wide construction claimed for it. Yet in *Hoffman's Patent*, 7 R. P. C. 93, a reference was again allowed on the ground that the above decision of the Court of Appeal might be reversed by the House of Lords. The result was that in protecting *Everitt's* interests an injustice was done to other patentees. Not only was the judgment of the C.A. not appealed from, but it has been followed in other cases (see *ante*, p. 13).

#### *Hill's Application*, 5 R. P. C. 601.

*L. Hill* applied (No. 12,133 of 1886) for a patent for improvements in wire ropes. *Elliott & Co.* opposed on the ground that the claim included what was claimed in *Batchelor's* specification (No. 5724 of 1884). The Comptroller decided to seal on the claim being amended directly. On appeal to the Law Officer the opponent asked only for a special reference. The appeal was dismissed.

*Webster, A. G.*: "... In order to be entitled to a disclaiming clause, I must be satisfied that the description in *Hill's* specification in terms includes and purports to claim a part of the invention described in *Batchelor's* specification. I will assume . . . that *Batchelor's* patent is the master or governing patent with regard to interlock. I should not insert a specific reference to *Batchelor's* patent unless I was satisfied of that; because it is not prudent nor desirable to insert special references to particular prior patents unless there is, practically speaking, no question that the earlier patent is what I may call a master patent."

<sup>1</sup> *Stell's Patent*, 8 R. P. C. 237 (8).

<sup>2</sup> *Welch's Patent*, 8 R. P. C. 443 (55).

<sup>3</sup> *Lynde's Patent*, 5 R. P. C. 664.



The position on the whole is that, in questions raised in opposition to the grant, no amendment can be required, or general or specific reference, unless the applicant's claim appropriates something that is already the subject of a claim in the earlier patent.<sup>1</sup> If the inventions or specifications be such that it is impossible to differentiate the applicant's specification without a specific reference, then the opponent is entitled to have such inserted, or the sealing of the patent refused. But if the applicant's invention can be differentiated without a specific reference, then the mode of differentiation—by direct amendment, or general disclaimer, or specific reference—is within the discretion of the Comptroller; if the applicant decline to accept the amendment, the sealing must be refused.

The practice has been thus described by *Finlay*, S.G., in *Adam's App.*, 13 R. P. C. 548:—

“ I do not like the insertion of references to prior patents merely by way of calling attention to the existence of those prior patents relating to the same subject-matter to which the patent of the applicant is directed; but in some cases a reference to a prior patent may be desirable for the purpose of explaining what the claim of the applicant is. The applicant's claim may be worded in such a general way as to include not merely the improvement which he has effected, or thinks he has effected, but also details of construction which have formed the subject of a prior patent. It is a ground of opposition to the grant of a patent that the claim relates to matter which has already formed the subject of the grant of a patent, and if a claim is worded in a general way, it might be necessary to refuse the patent altogether, unless the claim were amended in such a way as to show that it is not directed to those matters which have formed the subject of a prior grant.

The amendment of a claim might be done, and it would be the most satisfactory and scientific way of doing it, by altering the language, so as to direct the claim merely to those parts of the apparatus described which the applicant considers as his improvement (*l.* 14).

(*l.* 33) “ The same object which might have been achieved by properly limiting the claim in the first instance, or by embodying a proper amendment of the claim may in substance be achieved by a reference to the prior patent. I do that, not for the purpose of making this specification and patent the means of making the earlier patent known, but solely for the purpose of showing clearly that the claim which is in general terms here, is not to be read as

<sup>1</sup> See *Stell's Patent*, 8 R. P. C. 236 (20); *Marsden's Patent* (No. 2), 14 R. P. C. 175. As to exceptional cases, see *post*, p. 146.

involving a claim to anything which was covered by the prior patent."

In *Gosney's App.*, 5 R. P. C. 598, *Clarke, S.G.*, expressed the view that amendments should deal only with the claims, not mere descriptions, in the earlier specification :—

What a disclaiming claim is intended to guard against is the claiming in a new patent of something included in the claim of the old patent—not of something mentioned in the old patent, but of something which has not only been described in the old patent, but has been claimed as a part of the previous invention.

[The three preceding paragraphs have no application to amendments required under the Act of 1902 (see *ante*, p. 116) in which the Comptroller can, in certain cases, require references to earlier specifications to be inserted in the interests of the public.]

#### *Considerations affecting disclaimers.*

When the right to a disclaimer has arisen, the Comptroller and Law Officers, in the exercise of their discretion as to the form of the amendment, take into consideration the interests of the public,<sup>1</sup> as well as of the applicant.<sup>2</sup>

#### *Illustrations.*

The object and effect of the insertion of disclaimers is thus stated by *Webster, A. G.*, in *Guest and Barrow's Patent*, 5 R. P. C. 315 : "The insertion of these disclaimers does not affect the rights of the prior patentee at all. They are inserted for the purpose of preventing the subsequent patentee from alleging that his invention is wider than he is entitled to claim, both in his own interests, in order that his specification may not be considered as being too wide, and, in the interests of the public, on the ground that the public are entitled to know what a subsequent patentee may claim, and to have a fair description of the existing state of knowledge. It is not because a particular patentee or a prior inventor has made a broad claim that he is entitled to have limiting words inserted; unless he can show, upon the fair view of the evidence before the Law Officer, or before the Comptroller, that such words are really necessary to protect him." As to the question of a

<sup>1</sup> *Stell's Patent*, 8 R. P. C. 237 (11).

<sup>2</sup> See *Lorrain's Patent*, 5 R. P. C. 143; *Newman's Patent* (No. 2), 5 R. P. C. 280. Under the Act of 1902 (*ante*, p. 116), references are required in the public interest. These considerations will apply to such references.



specific reference to one (the opponent's) earlier specification, the learned Attorney-General said: "It might do the applicants very great harm, because it might be said you referred to *Laming*, and not referred to the others, and therefore it must be assumed that you intended to exclude the others, or did not know of the others; and I have never considered that a prior patentee has any right to be specially named, unless the applicants are willing to name him, and unless it is clear there is no other publication except the one that is mentioned. The name is generally inserted for the purpose of the protection of the patentee, or, as I said before, the protection of the public."

*Van Gelder's Patent*, 9 R. P. C. 325.

The application was for a patent (No. 20,030 of 1889) for "improvements in or appertaining to machines for separating dust or like particles from air or other gases." The applicant alleged that his invention was an improvement upon one in an expired patent (No. 6873 of 1884). The opponent alleged that it was merely a colourable imitation of his invention (No. 9423 of 1886). The Comptroller found that the most important feature of the opponent's invention as compared with that of the expired patent of 1884 had been adopted by the applicant with certain modifications partly derived from the expired patent of 1884. The applicant described his as an improvement upon the expired patent, entirely neglecting to mention the opponent's patent. The Comptroller required a specific reference to and disclaimer of the opponent's patent.

On appeal, it was held by *Webster*, A.G., that "The Comptroller directed a disclaimer to be inserted which would, practically speaking, have indicated on the face of it that Mr. *Van Gelder's* claims might be construed so as to include something which was in Mr. *Lake's* claims under the patent (No. 9423 of 1886), and under the circumstances of the case,<sup>1</sup> I think the insertion of a disclaimer might unfairly prejudice the patent." He decided that the disclaimer should be struck out, leaving a reference to the opponent's specification as another form of machine of the type of that for which the expired patent had been granted. This was on the ground that the public should have a fuller statement of prior knowledge. As the disclaimer was ordered by the Comptroller and was not insisted upon by the opponent, who had not appealed, no costs were given.

<sup>1</sup> The point was not taken that as soon as it was found the applicant's claim did not include the opponent's, the right to amend did not exist.

*Maxim & Silverman's Patent*, 11 R. P. C. 314.

In this case the Deputy-Comptroller was of opinion that the applicant's claim, although an improvement, included the invention claimed by the opponent's earlier specification. He allowed sealing subject to a specific reference and disclaimer. But the learned Law Officer, *Russell*, A.G., was not satisfied that the resemblance and identity of result aimed at amounted to identity of invention. He therefore struck out the disclaimer, but allowed the reference to opponent's patent, as sufficient to meet the justice of the case and the public interest.

*Levinstein's Patent*, 11 R. P. C. 348.

The applicant's invention was for improvements in the method of and apparatus for concentrating sulphuric acid and other liquids. During the proceedings before the Comptroller the applicant consented to cancel five claims and limit the scope of two of the remaining five claims. These claims were thus confined to mere improvements on the opponent's invention, and did not include the invention claimed by the opponent. The Comptroller, "in view of all the circumstances of the case,"<sup>1</sup> required a reference to the opponent's specification.

On appeal, *Russell*, A.G., decided that the reference should remain, in justice to the opponent and in the public interest.

The distinction between the circumstances under which a specific reference should be given or a general disclaimer has been drawn by *Webster*, A.G., in *Newton's Application* (17 R. P. C. 123).

In that case the learned Law Officer was not satisfied on the evidence that the inventions were identical. There appeared to be a difference between the ways in which certain difficulties were got over by the applicant and by the earlier inventor. On further evidence and examination it might appear that the inventions were very different inventions. In his judgment (p. 124) *Webster*, A.G., said: "Under these circumstances, as far as I can form an opinion, it seems to me that there is a difference between the way in which the difficulties are proposed to be got over by *Newton* and the way in which the difficulties are proposed to be got over by *Brookes*" (the earlier inventor). "Now, that being so, I do not think there is that degree of identity between the two inventions as to justify a specific reference. I have often laid down the rule as to the cases in which I think specific references

<sup>1</sup> The inclusion originally of opponent's invention gave jurisdiction to the Comptroller to require amendments. The power of the Comptroller to determine the form of amendments could not be affected by the applicant anticipating him by proposing one form of amendment.



are right—viz. where there is substantial identity between the fundamental parts of the two inventions, but a difference which can only be justified upon the ground of improvement and it being right to protect, in that case, both the public and the prior patentee by a specific reference to his invention. In order to make up one's mind whether or not a specific reference or a general disclaimer is required, you must to a certain extent endeavour to grasp what is the invention in each case. . . . When (p. 125, l. 14) it was suggested to Mr. *Gordon* by the Comptroller that the justice of the case would be met by incorporating or inserting as a disclaimer the substantial words of the claim, he objected to it on the ground that it was equivalent to a specific reference. I do not think that is so. I do not consider that a statement of public knowledge in the terms of the claim has by any means the same effect as a specific reference. It seems to me that it then becomes a statement of general knowledge. It allows no inference that the ambit of invention is the same in the one as the other; on the contrary, it leaves the question of invention to be determined from the consideration of that which the earlier patentee and the later patentee have respectively described. Therefore, though I think, as I have said, substantially the decision of the Comptroller was right, I think he was wrong in inserting a specific reference simply to the number and name of the specification, because I am satisfied that there is, at any rate, ground for contending that the inventions, when they come to be understood, are very different inventions." The statement inserted was, "I wish it to be understood that I am aware that it has been proposed to use, &c." (continuing with the words of the earlier claim), "and I declare that what I claim is . . ."

*Sachse's Application*, 18 R. P. C. 221.

The applicant's specification contained three claims. Two of the claims in the opponent's earlier specification were for the same invention as the first claim of the applicant's. The third claim of the applicant could not be supported without the first. The opponent claimed to have a master patent. The Comptroller ordered the insertion of a general disclaimer, and refused a specific reference. On appeal, the Law Officer inserted a specific reference, on the ground that the earlier patent was of great commercial importance, and the applicant's, when amended, had only a claim for a minimum of invention.

References to opponent's specifications not published at the date of application, are not on the same footing as those to specifications

which have already been made public.<sup>1</sup> The applicant's specification must be construed in the light of public knowledge, including earlier published specifications when proved to have been known.<sup>2</sup> Hence a mere reference to earlier specifications without disclaimer is surplusage, but it is different where the earlier specification referred to was not common knowledge at the date of application.

### *Some Exceptional Cases.*

If the applicant's *claim* does not include the invention put forward by the opponent, no hampering of his trade can take place, and the application will be allowed. But in cases of doubt references have been inserted; when the applicant's claims, as originally drafted, included the opponent's invention, amendments were made, not only in excising the claims which included the opponent's, but in giving specific reference to the earlier patent. The reason for this course was given by *Webster, A.G.*, in *Newman's Patent* (No. 1) (5 R. P. C. 277):—

“The Law Officers have always recognized that where there is an existing patent, and they can see fair ground for supposing that the construction of the later specification would interfere with the rights of the existing patent, the existing patentee is entitled to be protected.”

This practice is supported in consideration of the difficulty in construing the claim in many cases depending on an exhaustive examination into the knowledge of the Art,<sup>3</sup> for which the procedure before the Comptroller and Law Officers is not adapted.<sup>4</sup>

### *Illustration.*

A specification was for certain improvements in rock drills. To show the application of the invention, certain drawings were given in the description, but were not included in the claims. These parts formed the subject of a claim in the opponent's earlier patent. The Law Officer allowed (subject to the consent of the opponent) the sealing with a disclaiming clause with a specific reference; or, if he did not consent, then sealing with the omission of the description of the earlier invention. The opponent adopted the latter

<sup>1</sup> *Greenhalgh's App.*, 14 R. P. C. 388.

<sup>2</sup> *King & Co. v. Anglo-American Brush Corporation*, *post*, p. 340.

<sup>3</sup> See *ante*, pp. 86, 121.

<sup>4</sup> See cases cited, *post*, pp. 149, 150.



course, and the parties agreed upon the form of the amendment.<sup>1</sup>  
*Teague's Patent*, Gr. 298.

In *Ross's Patent* (8 R. C. P. 477) the question was raised whether an opponent could succeed on two earlier specifications by showing that by putting two claims together, one from each, the applicant's invention would be anticipated. The Attorney-General alluded to the problem in the following terms:—

“This is a case of some difficulty, and it involves a question of fact, as well as, to a certain extent, a rather difficult question of law. It will be convenient, I think, that I should say a word or two on the question of law. Mr. *Terrell*” (who appeared for the opponent) “does not produce any specification which identically claims that which is the subject of *Ross's* first claim: but he suggests that by putting together two claims in the specifications, Nos. 10,084 (1888) and 2784 (1889), he anticipates claim 1 of *Ross's* specification. Well, I confess I should require a very clear case to stop a patent on such a ground. It by no means follows that the combination of two previous arrangements will not require invention, and although I do not lay down any rule that where you have to combine and piece together the claims in the two specifications, the combination cannot amount to such a prior claim as would prevent a subsequent patent being sealed, yet having regard to the direction given in sect. 11 (1), I think it would require a very clear case, and I am not myself satisfied that if it had been the only objection to this application, I could have entertained the contention of Mr. *Terrell's* clients.

It is submitted that the true test in such a case is whether the monopoly granted by the applicant's patent would prevent the opponents from manufacturing the inventions claimed in the earlier specifications. If the applicant's alleged invention be merely the combination of the earlier ones, it could not be successfully opposed; but if in addition to claims for the new combination there be also claims for subordinate integers, one of which is identical with one of the earlier inventions, then the condition of successful opposition is fulfilled. The questions whether the alleged new combination is subject-matter, or would be an infringement of the earlier claims to its subordinate integers, are not open to the Comptroller or Law Officer.

<sup>1</sup> In the absence of agreement, there does not appear to be power to require an amendment (*ante*, p. 103).

*Evidence.*

In the absence of any evidence, the Comptroller and Law Officer must decide the issue on the wording of the specifications alone.<sup>1</sup> The issue always is, under this ground of objection, whether the applicant claims what has already been patented by being included in the claims of the earlier specification. The validity of the earlier specification is not in issue at all. The Comptroller and Law Officer cannot inquire into it, hence cannot receive evidence as to alleged disconformity in the earlier specification; for the purpose it is presumed to be a good patent.<sup>2</sup> In the case of disconformity this rule works no injustice to the applicant, for the publication of an earlier specification, although disconforming, would equally render the applicant's patent invalid for want of novelty.

On the other hand, it is material to inquire into the knowledge of the art at the dates of the earlier specifications, in order to ascertain the true construction of the claim. For instance, it may be a claim to a new process, and the specification may describe one form of arrangement or mechanism to carry out that process; or the application of the principles involved in the process may be old, and the claim necessarily be confined to the precise means described of carrying it out. In the former case the manufacture which is the subject of the patent may be claimed as the process, and therefore include equivalents for the means disclosed;<sup>3</sup> in the latter the means would constitute the patented manufacture, and the claim would include only equivalents or modifications of the same means. Hence the rule obtains that an opponent seeking to include in the earlier claim more than the actual description covers, should produce evidence of the state of the art in support of his wider claim.<sup>4</sup> In *Southwell & Head's App.* (16 R. C. P. 362), *Webster*, A.G., thus expresses this rule:—

“It has been pointed out that the Comptroller and the Law Officer have nothing before them but the two specifications. It seems to me that, unless the parties before the Comptroller agree on a

<sup>1</sup> *Southwell & Head's App.*, 16 R. P. C. 361.

<sup>2</sup> *Haythornwaite's App.*, 7 R. P. C. 71.

<sup>3</sup> This question of equivalents is open to the Law Officer: *Haythornwaite's App.*, 7 R. P. C. 71; *Smith's App.*, 13 R. P. C. 201.

<sup>4</sup> *Hill's App.*, ante, p. 140; *Sielaff's App.*, 5 R. P. C. 487. See also *Stell's Patent*, 8 R. P. C. 237 (8).



state of knowledge which is to be assumed to be the basis of both inventions, if an opponent is coming to say that a claim in an earlier patent is to be construed as being a pioneer or master claim to such an extent that he is entitled to a wide construction for the purpose of stopping future patents, he is bound to bring the state of knowledge before the Comptroller. I do not think that any person who, describing in specific language a method of arriving at a given end, afterwards seeks to say that the language is to include something which is on the face of it different, can ask the Comptroller so to act without clearly establishing that for the purpose of the Comptroller's decision the earlier patent is to be regarded as being a master patent."

In cases in which difficult scientific issues are raised, and the evidence is necessarily of a highly technical nature, the patent is not refused, but such amendments or references are inserted as will best protect the interests of both parties. The Law Officer may, if he think fit, obtain the assistance of an expert (*post*, p. 489); but this course has been rarely if ever adopted. These difficulties are illustrated in the following cases.

*Illustrations.*

*Pitt's Patent*, 5 R. P. C. 343.

The application was for the manufacture (*inter alia*) of a certain organic acid and dye stuffs therefrom.

The opponent set up a prior patent (No. 5846 of 1886), alleging that an acid therein described was identical with the applicant's acid, and consequently the dyes were identical too.

The Comptroller had to decide whether the new acid of the applicant could be prepared by the opponent's process. If it could, then the applicant would not be entitled to frame his claim so as to include the new acid as prepared. It was admitted that the new acid, before purification by the opponent's process, was a mixture of sulpho-acids. No mention of this was made in the opponent's specification. Conflicting declarations were filed as to the possibility of obtaining the applicant's acid pure by the opponent's process, or as to the acid being mixed with others and inseparable according to the opponent's process.

The Comptroller found that a chemist would not produce the acid by working according to opponent's specification, and decided to seal the applicant's patent.

On appeal to the Law Officer the decision was upheld.

The Solicitor-General said that he would have spared no trouble if he could arrive at a juster conclusion, that the subject was exceedingly

difficult, that there were ample opportunities for declarations, that he did not feel he could deal better with evidence given on cross-examination than with the declarations, but should require an expert's assistance. "There would be exactly the same controversy before me, and that controversy is one which I do not think, as Law Officer, dealing with the preliminary stage, as it were, of the matter, I ought to take upon myself to decide." He said that he had considered the declaration, and came to the same conclusion as the Comptroller. "But I cannot say that in these circumstances I should be justified, with very scanty scientific knowledge of my own, in reversing the decision of the Comptroller-General, who, in his turn, of course, was advised by those whose duty it is to express an opinion, and to advise him on such subjects."<sup>1</sup>

*Lake's Patent*, 6 R. P. C. 548.

The application was for a patent for improvements in the manufacture of alphanaphthol disulpho acid, and in the production of colouring matters therefrom. The grant was opposed on the ground of seven earlier patents. The sealing was allowed by the Comptroller with a disclaimer embodying a description of the process described in one of the specifications cited.

The Solicitor-General declined to have a conflict of technical evidence before him by calling one expert chemist on each side. He offered to allow the applicants to cross-examine the opponent's declarants; or would call in an expert to assist him. "Whatever advice that expert gave me upon the matter, it would have to be my judgment, and the responsibility of that judgment is a considerable one in a case of this character, and I do not think that, even if advised by an expert, I should consider it right, in view of a strongly controverted question of scientific anticipation, to decide that in a way which would put a stop to the patent now asked for." In the end the Comptroller's decision was upheld. Twenty guineas costs.

*Curtis and André's Application*, 9 R. P. C. 495.

The applicants' specification claimed—" (1) The manufacture of smokeless gunpowder consisting of a nitrocellulose base composed of soluble and insoluble nitrated cotton in combination with nitroglycerine in or about the proportions named and with or without modifying agents, substantially as set forth. (2) In the manufacture of nitroglycerine explosives suitable for firearms, the application

<sup>1</sup> The appellant was entitled to a rehearing, and to have witnesses cross-examined. The course here pursued amounts to an admission that in difficult cases the machinery for the administration of the Act is unable to discharge the duties imposed on it by the Legislature.



and use of soluble and insoluble nitrocellulose in or about the proportions named substantially as set forth." The opposition of Messrs. *Lundholm & Sayers*, was based upon their patent (No. 12,338 of 1889), in which the claim was—"The improvements in the manufacture of explosives, consisting in combining nitroglycerine with so-called insoluble nitrocellulose and with or without soluble nitrocellulose, nitro-oxycellulose, or nitro-hydrocellulose, with the aid of heat and pressure combined, substantially as hereinbefore described."

The Comptroller decided to seal the patent.

For the opponents it was argued that as heat and pressure were not excluded from the applicant's process, and as insoluble nitrocellulose had commercially a certain amount of the soluble with it, it was possible for the applicants to claim to cover their product. The applicants contended that their claim was confined to certain proportions, two of soluble to one of guncotton, and that it was a new invention. The applicants' specification contained a distinct statement that their proportions produced "a product differing materially in its physical qualities from the use of one variety of nitrated cotton alone."

The Law Officer *held* that the case was too difficult to justify a refusal of the patent; that the opponents' claim was for a combination of nitroglycerine and insoluble nitrocellulose, the presence of soluble not being in the claim; <sup>1</sup> that the applicants must so amend as to make it clear that their claims were for a combination of soluble and insoluble, each variety as pure as could be obtained.

### *The Act of 1902.*

Under the Act of 1902 it appears that this ground of opposition will cease to be of as much importance as hitherto, although still existing. For under sect. 1 (1) (2) (*ante*, p. 116), at an earlier stage of the procedure the Comptroller will have informed the applicant of any earlier specifications in which the invention claimed by him appears to have been claimed *or described*. The applicant will have an opportunity of amending his specification to avoid the alleged anticipations. As has been pointed out (*ante*, p. 138), this may be effected either by altering the claims to avoid the earlier inventions, or by the insertion of a specific reference to the earlier specifications. In the majority of cases the former method will probably be adopted. But in cases in which the applicant does not,

<sup>1</sup> A similar view was taken with regard to *Nobel's* invention by the House of Lords in *Nobel v. Anderson*, *post*, p. 367.

on scientific grounds, accept the view that his invention is identical with the alleged anticipation, wholly or in part, a reference may be framed so as to leave the question an open one for future decision in the High Court.

The cases which will create most difficulty are those in which the applicant has reason to believe that the earlier anticipation was a failure—not by reason merely of insufficient description as to the method of its performance, but because the invention itself was incomplete, through the omission of some essential feature (see *ante*, pp. 27, 36). The Comptroller cannot, it appears, inquire into that issue (*ante*, pp. 102, 127). The solution of this difficulty will depend partly on the true construction of the words “wholly or *in part* claimed” in sect. 1 of the Act of 1902. If “in part” means that one claim out of several of the applicant’s has been anticipated by a complete earlier invention, there will only remain the difficulty arising from the inability of the Comptroller to test the question of success or failure of the anticipation; but if “in part claimed” includes the case of an earlier alleged invention only partially carried out, and therefore misleading, an applicant who has turned failure into success will be required to give references to earlier specifications which do not affect the validity of his grant.

### *Third Ground of Opposition.*

The third ground of opposition is—

**III. That the complete specification describes or claims an invention other than that described in the provisional specification, and that such other invention forms the subject of an application made by the opponent in the interval between leaving of the provisional specification and the leaving of the complete specification.** (51 & 52 Vict. c. 50, s. 4, *post*, pp. 489, 520.)

A patent will be invalid if the complete specification claim something that is not included in, or a fair development of the invention as described in the provisional. Such a patent would fail on the ground of disconformity. The conditions necessary to raise disconformity have been discussed (*ante*, pp. 47, 64-72). But an opponent has no power to rely on that ground except in the case here mentioned, viz. where the different invention that constitutes the disconformity is the subject of an application for a patent by



the opponent, after the date of the applicant's provisional specification and before that of his complete.

The rules relating to the tests for disconformity in questions of validity also apply to proceedings under this section. In *Edwards's Patent* (11 R. P. C. 463), *Reid*, S.G., expressed the rule in the following terms:—

“It is possible that the language of the Act of 1888 may not be very clear, but I think that under the law prior to the Act of 1888 an inventor might develop his invention in the interval between the provisional and complete specifications, but he might not claim a different, or other invention in the complete specification, and it is admitted that this is a fair development. Sect. 4 of the Act of 1888 gives a new ground of opposition, provided that the complete specification describes an invention other than that described in the provisional specification. I consider that this does not refer to a mere development; and I do not think it was intended that this was to alter or limit the right previously existing.”

In one direction the rights previously existing seem to be limited. The words in the subsection quoted above are “describes *or* claims,” not merely “describes *and* claims an invention.” For, as has been already pointed out (*ante*, p. 64), the introduction of a new invention, *unless claimed*, does not invalidate because it does not extend to monopoly, and therefore cannot interfere with manufacturers or rival inventors. The words “describes or claims an invention” cannot obviously be taken in their widest meaning, or “describes . . . an invention” might refer to auxiliary matter already known; they must mean “describes . . . *as* an invention,” and refer to descriptions of new devices which, although not technically claimed, would mislead the public, or render the patent invalid on the ground of ambiguity. (For an illustration of such an ambiguity, see *Osmond v. Balmoral Cycle Co.*, *post*, p. 418.) A specification that is misleading invalidates the patent (*ante*, pp. 59, 74). Besides, if a description of a new invention, although not claimed, were allowed in the complete specification (which would not be invalidated thereby) an injustice, or at least embarrassment, would be caused to a rival inventor who devised or discovered the same invention at an earlier date and wished to patent it.

The cases under this head of opposition are no exception to the general rule (*ante*, p. 135), that in cases of doubt the sealing will not

be refused. It frequently happens that an opponent who fails in his opposition on the third ground is, when he has filed his own complete specification, opposed by the former applicant on the ground that the alleged new invention has been patented on an application of prior date. Care is therefore required both as to allowing mere descriptions of alleged disconforming inventions to be inserted,<sup>1</sup> or references to an earlier patent, the specification of which was not published at the date of the application for the patent in question ; in the latter case the proper form of reference, if one be required, has not been settled.<sup>2</sup> The object is to secure the later patent from being prejudiced, should the earlier prove to be invalid for disconformity.

Where an applicant discovers, by working out a fair development after filing his provisional specification, that the ambit of his invention, if claimed as described in the provisional, would be too wide, he may cut down his description and claims in the complete specification.<sup>3</sup> But it should not be forgotten that where the alleged fair development constitutes in reality the whole patentable invention, by reason of the invention as described in the provisional being anticipated, disconformity will ensue (see *ante*, pp. 65, 71).

#### *Illustration.*

In the case of a patent for "improvements in treating hides and skins," the provisional specification described a method of treating them with formalin to produce the same result as by tanning, and also stated that in some cases the hides and skins may be superficially tanned or treated in the ordinary way with bark before the application of formalin, and "may be finished by any suitable known process or combination of processes." At that time the inventor believed the skins would be leather before the finishing process. They subsequently discovered that their process was not so complete as this. The introduction of formalin into tanning operations was new. *Held*, that a claim for "the treating of hides and skins with formalin in combination with the treating of them with tanning (*sic*) or like substances substantially as hereinbefore described" was a fair development. *Webster*, A.G., said (p. 720), "I am clearly of opinion that if the fair development shows that the invention described in the provisional specification, though

<sup>1</sup> See *Bartlett's App.*, 9 R. P. C. 511.

<sup>2</sup> *Gaunt's & Greenhalgh's Apps.*, 14 R. P. C. 387.

<sup>3</sup> *Millar & Miller's Patent*, 15 R. P. C. 720.



really there, would be too widely stated if the claim was to be repeated in the form in which the invention was described in the provisional specification, it is within the rights of a patentee to cut down his claim as well as to cut down his description. In other words, the object, or one of the objects, of the period of time allowed under the Act of 1852 and the Act of 1883, is to meet this kind of difficulty, namely, the case of that which was believed to be an invention having a certain ambit, turning out to have a lesser ambit. Of course the patentee must not go outside the four corners of the general description which has been given in the provisional specification." *Millar & Miller's Patent*, 15 R. P. C. 718.

In deciding cases under this head of opposition, it is necessary to construe the provisional specification. The rule for comparing the specifications to ascertain if disconformity exist is given *ante*, pp. 71, 72. It is the duty of the Law Officer to see that the applicant does not construe his specification to mean that which in fact he did not mean when writing it; hence evidence such as the production of original drawings may be required.<sup>1</sup>

#### *Appeal to the Law Officers.*

The appellant must file, within fourteen days of the Comptroller's decision, in the Patent Office a notice of his intention to appeal.<sup>2</sup> In cases where the Comptroller decides to seal a patent subject to amendments being made, the time runs from when the Comptroller settles the specific words of the amendment, instead of the date of the actual decision to allow sealing.<sup>3</sup>

The notice must state the nature of the decision appealed against, and whether the appeal is from the whole or part only, and if so, what part of such decision.<sup>4</sup> If the Comptroller's decision be against both parties and one only appeals, the other cannot at the hearing reopen that part of the decision that was against him; but if the notice of appeal was given close to the expiration of the fourteen days, the time can be extended to allow of a counter notice being given.<sup>5</sup> The agent of the applicant may sign the notice on his behalf.<sup>6</sup> Where the notice of hearing before the Comptroller was

<sup>1</sup> *Birt's App.*, per Webster, A.G., 9 R. P. C. 491 (35).

<sup>2</sup> L. O. R. 1, *post*, p. 571.

<sup>3</sup> *Chandler's Patent*, Gr. 270.

<sup>4</sup> L. O. R. 2, *post*, p. 571.

<sup>5</sup> *Bairstone's Patent*, 5 R. P. C. 289.

<sup>6</sup> *Anderson & McKinnell*, Gr. L. O. C. 23.

duly posted and miscarried, and consequently the latter did not appear, a rehearing was ordered on the opponent appealing to the Law Officer and explaining the facts.<sup>1</sup>

Copies of the notice of intention to appeal must be sent to the Law Officer's clerk at room 549, Royal Courts of Justice, to the opponent, and, when the Comptroller has refused to seal on the ground that a previous application is pending, to the prior applicant.<sup>2</sup> Although not so required by the rules, when the opponent appeals notice will be given to the applicant.<sup>3</sup> Notices and other documents required to be given to the Law Officer's clerk may be sent by post.<sup>4</sup> On the notices being filed, the papers in the matter are sent to the Law Officer's clerk.<sup>5</sup> No appeal shall be entertained if the requisite notice be not given within fourteen days, unless the time be extended by the Comptroller, or by special leave of the Law Officer.<sup>6</sup> In a case in which the respondent (the applicant) did not appear on the appeal, but before the decision was given, gave a satisfactory explanation of his absence, the Law Officer allowed a rehearing of the appeal, the applicant paying the costs of the adjournment.<sup>7</sup> Where an opponent gave notice of appeal and did not appear, five guineas costs were given to applicant;<sup>8</sup> and where an applicant withdrew his appeal after giving notice to his opponent, costs were given to the latter.<sup>9</sup> Seven days' notice of the time and place of hearing the appeal are given by the Law Officer's clerk, unless a shorter time be allowed by special leave of the Law Officer.<sup>10</sup> This notice is given to the Comptroller and the parties entitled to have notice of the intention to appeal.<sup>11</sup>

### *Evidence.*

The evidence used must be the same as that before the Comptroller, unless as to what has come to the knowledge of either party since the hearing, or unless leave be given by the Law Officer upon application for that purpose.<sup>12</sup> Where fraud is imputed, an extension of time will not be allowed to the opponent to adduce evidence in

<sup>1</sup> *Warman's App.*, Gr. L. O. C. 43.

<sup>2</sup> *Hill's App.*, 5 R. P. C. 601.

<sup>3</sup> L. O. R. 4, *post*, p. 571.

<sup>4</sup> *Ainsworth's Patent*, Gr. 269.

<sup>5</sup> *Knights' App.*, Gr. L. O. C. 35.

<sup>6</sup> L. O. R. 7, *post*, p. 571.

<sup>7</sup> L. O. R. 3, *post*, p. 571.

<sup>8</sup> L. O. R. 14, *post*, p. 572.

<sup>9</sup> L. O. R. 5, *post*, p. 571.

<sup>10</sup> *Diels's Patent*, 6 R. P. C. 297.

<sup>11</sup> L. O. R. 6, *post*, p. 571.

<sup>12</sup> L. O. R. 8, *post*, p. 572.



support of that charge after he has failed on another issue.<sup>1</sup> But there is a power to order the attendance of any person who has made a declaration in order to be cross-examined upon it;<sup>2</sup> the party requiring the attendance has to provide the witness with conduct money.<sup>3</sup> The Law Officer may also examine witnesses on oath, and make orders as to costs.<sup>4</sup> The Law Officers, in cases of doubt, do not reverse the decision of the Comptroller.<sup>5</sup>

Appeals are rehearings, but should not therefore be encouraged, so costs as a general rule will follow the event.<sup>6</sup> But in many cases special orders are made. Costs to a very large amount to cover all expense will not necessarily be given, lest appeals be discouraged.<sup>7</sup> A statement of the amount of fees paid should be handed in at the hearing, so that the proper costs may be allowed.<sup>8</sup> The Comptroller, in the absence of very special circumstances, neither pays nor receives costs.<sup>9</sup>

#### *Costs refused.*

Because the applicant's specification might, in its original form, have misled the public. *Welch's Patent*, Gr. 302.

Where the declarations of the successful party were not full enough, and therefore cross-examination became necessary. *Anderton's Patent*, Gr. L. O. C. 25.

Where applicant departed from an arrangement made before the Comptroller. *Guest & Barrow's App.*, 5 R. P. C. 316.

If the costs be not paid within fourteen days (or other time allowed by the Law Officer) after they have been ascertained or fixed, an order for payment may be applied for.<sup>10</sup>

The persons entitled to be heard in opposition before the Law Officers are the same as those so entitled before the Comptroller.<sup>11</sup> The Law Officers' decision as to what persons are entitled to be heard is final.<sup>12</sup>

<sup>1</sup> *Hull's Patent*, Gr. 292.

<sup>2</sup> L. O. R. 9, *post*, p. 572.

<sup>3</sup> L. O. R. 10, *post*, p. 572.

<sup>4</sup> Sect. 38 of Act of 1883, *post*, p. 498; L. O. R. 11, *post*, p. 572.

<sup>5</sup> *Glossop's Patent*, Gr. 285.

<sup>6</sup> *Stubb's Patent*, Gr. 298; *Anderton's Patent*, Gr. L. O. C. 25.

<sup>7</sup> *Stuart's App.*, 9 R. P. C. 453.

<sup>8</sup> *Sielaff's App.*, 5 R. P. C. 487.

<sup>9</sup> *Lake's App.*, Gr. L. O. C. 36.

<sup>10</sup> L. O. R. 12, *post*, p. 572; Sect. 38 of the Act of 1883, *post*, p. 48.

<sup>11</sup> *Stewart's App.*, 13 R. P. C. 628.

<sup>12</sup> Sect. 11 (3), *post*, p. 489; and *The Queen v. Comptroller-General*, 16 R. P. C. 212.

### *Sealing of the Patent.*

In the absence of any opposition, or after the determination in favour of the applicant, the patent will be sealed.<sup>1</sup> Where the sealing is delayed by an appeal to the Law Officer, or by opposition to the grant, the patent may be sealed at such time as the Law Officer may direct, in other cases within fifteen months of the date of application, unless the time be extended to nineteen months.<sup>2</sup> If the applicant die before the period allowed for sealing expire, his legal personal representative may have the patent sealed up to twelve months after the death of the applicant.<sup>3</sup>

In the case of *Kitson's Patent*, 7 R. P. C. 388, there was a delay of nearly a year from the date of opposition. But as it did not appear to be due to the applicant altogether, and as the decision did not rest on the declarations that were delayed, the sealing was allowed.

In *A. & B.'s Application*, 13 R. P. C. 63, there was a delay due to mere inadvertence of one year and ten months in complying with the Comptroller's decision. During this period the time for sealing expired. As the delay was not due to either appeal or opposition, the patent could not be sealed.

In *A. B.'s Application*, 19 R. P. C. 403, 556, considerable delay was caused by the parties for ulterior purposes (viz. to save the patent in the United States); opposition was filed at the last moment, and extension of time obtained to file evidence, but none was filed, and there was no appearance by either party before the Comptroller. An appeal was lodged, but no appearance made before the Law Officer. He held he had no jurisdiction to extend the time, the delay not being *caused* by opposition, and refused to direct the patent to be sealed.

### *Contemporaneous Applications.*

Many of these cases are those in which one party is alleged to have obtained the invention from the other (*ante*, pp. 124-126); or in which the earlier applicant, having secured the acceptance of his complete specification, opposes the grant to the second on the ground that the invention was patented in the country on an application of prior date (*ante*, p. 126); or in which the earlier applicant is opposed

<sup>1</sup> Sect. 12 of Act of 1883, *post*, p. 489.

<sup>2</sup> Sect. 3 of Act of 1885, *post*, p. 515.

<sup>3</sup> Sect. 12 of Act of 1883, *post*, p. 489; and sect. 3 of Act of 1885, *post*, p. 515.



by the later on the third ground of opposition (*ante*, p. 152). In the second class of cases the Comptroller may, on the application of the second applicant within two months of the grant to the earlier applicant, decline to proceed with the application or allow the surrender of the patent if granted thereon.<sup>1</sup>

But if the second applicant secure the sealing of his patent first, the Comptroller may seal the patent of an earlier applicant for the same invention.<sup>2</sup> The parties are then left to their remedies at law.

If the earlier applicant obtain the invention in fraud of the later, who is the true and first inventor, then such application and consequent publication does not invalidate the patent granted to the true inventor.<sup>3</sup> When joint inventors file a provisional specification and subsequently quarrel, there is no power to decide between them.<sup>4</sup> In a case in which the inventor was one of joint applicants, the other being a purchaser, the latter obtained an injunction restraining the former from abandoning the application.<sup>5</sup>

<sup>1</sup> Sect. 2 (5) of Act of 1888, *post*, pp. 487, 519.

<sup>2</sup> Sect. 13 of Act of 1883, *post*, p. 490.

<sup>3</sup> Sect. 35 of Act of 1883, *post*, p. 498.

<sup>4</sup> *Apostoleff's App.*, 13 R. P. C. 275.

<sup>5</sup> *Wool, &c., Syndicate v. Riches*, 19 R. P. C. 127.

## CHAPTER IX.

### AMENDMENT OF SPECIFICATIONS—CONVENTION APPLICATIONS.

Occasions for Amendment—General Considerations, p. 163—Amendments refused, p. 164—Amendments allowed, p. 167—Amendments during Legal Proceedings, p. 172—Terms usually imposed, p. 174—Illustrations, p. 174—Foreign and Colonial Applications, p. 176.

#### *Occasions for Amendment.*

THERE are four stages or occasions in which a specification may be amended.

1. During the period which elapses between the filing and acceptance of the complete specification at the instance of the Comptroller, in order to make it comply with the rules, and under the provisions of the Act of 1902.

Amendments of this class have been discussed, Ch. VII.

2. After filing<sup>1</sup> of the complete specification at the request of the applicant or person for the time being entitled to the benefit of the patent when an action for infringement, or petition for revocation is not pending.
3. In cases of opposition amendments may be required as a condition for sealing.

The practice in such cases has already been considered under the head of Opposition.

4. Amendments may be made when an action for infringement or petition for revocation is pending.

The first and third classes of amendments have already been considered. The proceedings with respect to the second class of amendments is regulated by Sect. 18 of the Act of 1883, which is in the following terms :—

<sup>1</sup> *Jones's Patent*, Gr. 313.



18. (1) An applicant or a patentee may, from time to time, by request in writing left at the Patent Office, seek leave to amend his specification, including drawings forming part thereof, by way of disclaimer, correction, or explanation, stating the nature of such amendment and his reasons for the same.

The term "patentee" includes assignee (see sect. 46, *post*, p. 502).

The request for leave must be signed by the applicant, contain an address for service in the United Kingdom, and be accompanied by a duly certified copy of the original specification and drawings, showing amendments proposed in red ink. If the patent be sealed, the request must contain a statement that no action for infringement or petition for revocation is pending (Rule 42, *post*, p. 535).

(2) The request and the nature of such proposed amendment shall be advertised in the prescribed manner, and at any time within one month from its first advertisement any person may give notice at the Patent Office of opposition to the amendment.

The request and nature of the amendments are advertised in the Patent Office Journal, and as the Comptroller may otherwise direct (Rule 42, *post*, p. 535). The notice of opposition, on form G, must give grounds of opposition, an address for service of the opponent, be signed by him, and be accompanied by an unstamped copy (Rule 44, *post*, p. 536).

(3) When such notice is given the Comptroller shall give notice of the opposition to the person making the request, and shall hear and decide the case subject to an appeal to the Law Officer.

The copy of the opponent's notice is sent to the applicant (Rule 44, *post*, p. 536). The evidence is by declarations, which the opponent leaves at the Patent Office, and of which he gives copies to the applicant (Rule 45, *post*, 536). The further proceedings are subject to the same rules as in cases of opposition to grants (Rule 46, *post*, 536; also *ante*, p. 118). The applicant, if successful, must, within a time named by the Comptroller, leave at the Patent Office a new specification and drawings as amended (Rule 49, *post*, 536). The amendments allowed are to be forthwith advertised (Rule 50, *post*, p. 536).

To "hear and decide" involves the power, in cases where the amendment is opposed, to grant subject to conditions—a partial grant (*Hearson's Patent*, Gr. 309). But a monetary allowance to the opponent cannot be made a condition of allowing an amendment. *Pietschmann's Patent*, Gr. 314.

(4) The Law Officer shall, if required, hear the person making the request and the person so giving notice, and being in the opinion of the Law Officer entitled to be heard in opposition to the request, and shall determine whether and subject to what conditions, if any, the amendment ought to be allowed.

Before an action had terminated, the applicants obtained leave to amend under sect. 19. They applied for certain amendments on the 7th of March. The action was discontinued prior to the 9th of April. On the 9th of April a second application was made for the same amendments, and the former application was withdrawn on the 20th of April. The opponents (who were defendants in the action) had incurred costs as to the earlier application, and asked for them to be refunded as a condition of the amendment being allowed. *Held by Clarke, S.G.*, that, although the patent as amended would conflict with the earlier ones relied on, the amendment should be allowed, because (1) the claim was narrower and not larger than or different from its earlier form; and (2) the opponents had no interest in the earlier patents which had expired.<sup>1</sup> The proceedings in the action could not be considered as regards costs. *Bell's Patent*, Gr. L. O. C. 11.

In the applicants' patent there were two distinct claims. One proved to be invalid. The applicants requested to amend by disclaiming the invalid claim, but through an inadvertence the matter was not proceeded with. Three years later they again applied. Their opponents had infringed the valid claim, relying on invalidity due to the second claim; they asked for terms to be imposed on account of the delay. *Held* that, in view of the protection afforded by sect. 20, there were no special circumstances justifying the imposition of terms. *Ainsworth's Patent*, 13 R. P. C. 76.

No conditions will be imposed on disclaiming a number of invalid claims (even late in the life of a patent) unless it be proved that the applicant, by his conduct, induced the opponent to treat the patent as invalid. *Allison's Patent*, 15 R. P. C. 411.

(5) Where no notice of opposition is given, or the person so giving notice does not appear, the Comptroller shall determine whether and subject to what conditions, if any, the amendment ought to be allowed.

(6) When leave to amend is refused by the Comptroller, the person making the request may appeal from his decision to the Law Officer.

<sup>1</sup> As to this ground see now *ante*, pp. 126, 128.



(7) The Law Officer shall, if required, hear the person making the request and the Comptroller, and may make an order determining whether, and subject to what conditions, if any, the amendment ought to be allowed.

(8) No amendment shall be allowed that would make the specification, as amended, claim an invention substantially larger than or substantially different from the invention claimed by the specification as it stood before amendment.

(9) Leave to amend shall be conclusive as to the right of the party to make the amendment allowed, except in case of fraud; and the amendment shall in all Courts and for all purposes be deemed to form part of the specification.

See *Moser v. Marsden* and notes thereto, *post*, p. 374.

(10) The foregoing provisions of this section do not apply when, and so long as any action for infringement or *proceeding for revocation of a patent* is pending.

The words in italics, by sect. 5 of the Act of 1888, are substituted for "other legal proceeding in relation to."

"Pending" means pending in the High Court, and does not include appeals. *Cropper v. Smith*, 1 R. P. C. 254. A petition for revocation is not "pending" if presented in the interval between the application to amend and the hearing by the Comptroller. *Woolfe v. Aut. Picture Gallery, Ltd.*, 20 R. P. C. 177.

### *General Considerations.*

It is the persons for the time being entitled to the benefit of the patent who are authorized to apply to amend.<sup>1</sup> Amendments may be made from time to time, but second applications are not encouraged;<sup>2</sup> so, when an amendment was refused, and the applicant did not appeal, the Law Officer, on hearing an appeal two years afterwards on a second application, refused it on the ground that the amendment was practically the same as the earlier one refused by the Comptroller.<sup>3</sup> So when the application is made late in the life of the patent, the proposed amendments must be critically examined, lest fresh knowledge be imported,<sup>4</sup> or lest an insufficient

<sup>1</sup> Sect. 46 of Act of 1883, *post*, p. 502; *Church's Patent*, 3 R. P. C. 100.

<sup>2</sup> *Haddan's Patent*, Gr. L. O. C. 13.

<sup>3</sup> *Arnold's Patent*, Gr. L. O. C. 6.

<sup>4</sup> *Beck & Justice's Patent*, Gr. L. O. C. 10.

description be made sufficient after the public had relied on the insufficiency as a ground of invalidity, the object of the amendments being to make the patentee's meaning clear.<sup>1</sup>

*Illustrations.*

*Amendments refused.*

In a specification for "improvements in nozzles for the escape of steam or gas under pressure," no mention was made of gas-engines. An amendment was refused relating to the proper size of the chamber in the case of gas-engines, which were not mentioned in the original specification. *Beck & Justice's Patent*, Gr. L. O. C. 10.

A specification for "improvements in the manufacture of castings from wrought iron and steel" contained directions for the introduction of aluminium into the metal shortly before it was poured out, and contained a statement that this "addition might, however, be made earlier." It was proposed to strike out these words and insert a long statement explaining the action of the aluminium in lowering the melting-point. In refusing the insertion of the new matter, *Webster, A.G.*, said: "If the putting in the aluminium into the molten iron or steel was the proper subject-matter of an invention, and was not a mere example of a known scientific fact, as far as I can judge, the specification sufficiently describes and claims the invention, but under any circumstances, whether that be so or not, it is the duty of the patentee to fulfil the condition of the patent, and to file a proper and sufficient specification. Of course, I am well aware that when a disclaimer is required it is because there is a defect on the face of the specification, but in my opinion that defect must be one which must be consistent with the patentee intending to fulfil the condition of the grant by properly describing his invention, and I cannot see, if that condition is fulfilled in this case, that the amendment is required." *Nordenfelt's Patent*, Gr. L. O. C. 21.

*Heath & Frost* applied for a patent for "an improved method of blasting and shot-firing in mines." The provisional described the advantages of the new cartridge — dynamite preferably used — the charge was enclosed "in a case surrounded by a water-tight cartridge containing water and sealed up." The complete described two cases—the inner and outer; the former could be dispensed with when dynamite impervious to water was used. The first claim was for "the construction of a simple and practicable water-tight cartridge for blasting purposes, in which the explosive substance is entirely surrounded by and in immediate contact with water, substantially as and for the purposes hereinbefore described, set forth.

<sup>1</sup> *Johnson's Patent*, 13 R. P. C. 650; *Nordenfelt's Patent*, Gr. L. O. C. 20.



and fully illustrated, &c." Opposition to the grant was entered by *Settle*, on the ground of a previous patent of his own. This invention was a blasting cartridge with a double case, in which water was put to extinguish the flame of explosion. An application was then made by *Heath & Frost* to amend by confining the first claim to a cartridge without an inner case, and by striking out the other claims. The grounds of opposition to the amendments were: (1) that they would make it a different invention, (2) would introduce disconformity, and (3) the amended claim would be one for *Settle's* invention. The application for amendment was heard first by arrangement. The amendment was refused on the ground that the invention would be substantially different from that in the original specification. The case for opposition was then heard. Sealing was refused on the ground that the inventions were substantially the same, the use of the inner case being immaterial. *Heath & Frost's App.*, Gr. 310.

The invention was to support the top clearing rollers in spinning machinery to prevent them from rolling off. Pivots from the centres of the clearers rested on inclined bearers. "The said bearers may either be fixed to any hook, or they may be attached to any other fixing or part of the frame, in which case they form adjustable inclined planes." The claim was for the "inclined bearers or supports, &c." One amendment asked for was the insertion of the word "adjustable" before "bearer" or "bearers" throughout the specification; it was refused, as it would enlarge the claim. *Walker's Patent*, Gr. L. O. C. 22.

It was sought by amendments to introduce a long description of details (by way of further explanation) in carrying out an invention for printing floor-cloths, by movement of blocks across the piece. The amendments were not allowed, because, if the patent were good and the specification sufficient, they were unnecessary for the protection of the patentee, and the insertion of such detailed explanation might lead a reader to construe the claim as for such detailed means of carrying out the new process. *Webster*, A.G., thought (p. 445 (30)) that it was "going too far to say that . . . where a patentee has chosen to claim an improved method apart from particular means, you can allow him practically to rewrite his specification by inserting all the particular means with considerable doubt as to whether they would not be made the subject of a claim." *Nairn's Patent*, 8 R. P. C. 444.

*Parkinson's Patent*, 13 R. P. C. 509.

A patent (No. 4176 of 1890) was granted to Messrs. *Parkinson* for "improvements in or relating to sieves, applicable for purifying, grading, or separating grain and other substances." The invention

consisted in an oscillating sieve, of which a comparatively narrow portion was used for sieving, and the remainder formed surfaces upon which the dust fell when no longer carried upwards by the air on expanding after passing through the sieve. A hood or deflector, situated above and over the sieve, also received the dust. The first three claims were for the combination of sieve and side depositing surfaces—the former tapering or parallel, and the latter fixed or moving with the sieve. The fourth claim was for the combination of sieve, surfaces, and deflector or hood over the sieve.

The House of Lords had decided, in *Parkinson v. Simon* (12 R. P. C. 403) that the first three claims were too wide, and the patent was therefore invalid.

The amendments proposed were : (1) the insertion of a disclaiming note, viz. “ We do not desire to claim broadly the use of narrow sieves and side deposit surfaces, but we desire to confine our claims to apparatus in which narrow sieves and side deposit surfaces are arranged in combination with the other portions of the apparatus substantially in the manner hereinbefore described, so as practically to free the escaping air from particles of dust ; ” (2) to amend the first three claims so as to bring each of them “ subject to the disclaiming note.”

*Simon* opposed on several grounds.

The Chief Examiner held (as deputy Comptroller) that the main features in the claims remained the same, that the effect of the amendments was to narrow the claims to those of the general class of apparatus such as described, and to those members of that class in which the “ other portions ” were the same, and dustlessness was secured ; he allowed the amendments.

On appeal to the Law Officer, this decision was reversed.

*Finlay, S.G.* (p. 513) : “ It appears to me that this amendment ought not to be allowed, and that I must reverse the decision of the Comptroller in this matter, and for these reasons : To my mind, the specification, as amended, if this application were allowed, would be for something substantially different from what the patent originally claimed. The House of Lords has decided that what these three first claims mean is this — the patentee claims the combination of sieve with the side deposit surfaces, tapering or not tapering. That is the effect of these claims. What would be the effect of the patent as amended ? It would be really for a new combination, for the combination of the sieve and the side deposit surfaces with the other parts of the apparatus indicated by the words in the proposed amendment, ‘ other portions of the apparatus substantially in the manner hereinbefore described, so as practically to free the escaping air from particles of dust.’ That may or may not be a good claim ; but, to my mind, it is perfectly



impossible to say that it is not substantially different from the naked claim contained in the first three claims of the original patent for the combination of the sieve with the side deposit surfaces. There is, further, to my mind, this objection—that it seems to me, having regard to the wording of the amendment, it is very much claiming the discovery of a new advantage in an old apparatus; because I do not find in the specification any other portions of the apparatus which can be referred to there unless it be the deflector. Well, if it is the deflector that is referred to, that is the fourth claim, and obviously the first three claims should not be allowed so as to put forward that claim in another form.”

*Amendments allowed.*

- A patent was for “the use of earthenware pipes of novel form in the place of brickwork or other material in the formation of self-flushing water-closets.” The claim mentioned the “use of pipes of novel form.” The proposed amendments consisted in the omission of the words “of novel form” from the title and the insertion of a disclaimer as to novelty in the form of the pipes, and to alter the claim to one for an arrangement of pipes “of the above form.” The application was opposed on the ground that the amendments would enlarge the invention. The applicant declared he had framed the specification in good faith, but had inadvertently claimed the *form*. On considering the whole specification and declarations, the Law Officer considered that the claim was one substantially for the *arrangement* of the pipes in combination. He therefore allowed the amendments. *Allen's Patent*, Gr. L. O. C. 3.
- A specification described an invention of improvements in moulds for cooling and discharging slag. The core of the mould was shown so constructed as to be angular or wedge-shaped on one side and rounded on the other. That form was “preferred,” but the claim was only for the wedge shape. Amendments were proposed to confine the claim to the preferred form, wedge-shaped on one side and rounded on the other. *Held* by the Law Officer that the amended claim was one for a part (a particular form) of the original invention claimed, and was not for an invention different from that originally claimed. *Cochrane's Patent*, Gr. 304.
- In *Cheesbrough's Patent* (*post*, p. 297) certain words were allowed to be struck out from the title. Some of these (*i.e.* “purifying the same”) were not advertised as part of the proposed amendment. On appeal to the Law Officer, the opponent objected to such being struck out, as they were not advertised. But the Law Officer allowed the amendment, because (1) the opponent consented to it before the Comptroller; and (2) it did not enlarge, but narrowed, the invention claimed. *Cheesbrough's Patent*, Gr. 303.

In a patent relating to improvements in wire cards, the first claim was ambiguous, *vis.* "the manufacture of the dents or teeth of cards from a continuous length of hardened and tempered steel wire as set forth and indicated, &c." It was amended by alterations to read ". . . continuous length of steel wire hardened and tempered in the manner substantially as set forth and indicated, &c.," the Law Officer holding that the drawings indicated only the method of hardening, which was therefore the real invention. The second claim was restricted by the addition of the words "substantially as set forth and indicated." *Ashworth's Patent*, Gr. L. O. C. 9.

An amendment was allowed in a specification for improvements in the manufacture of a dye. The amendment consisted of a statement that the series of colours could be enlarged by mixing the colours together, by altering the reagents so that, instead of two molecules of one substance, one of each of two substances should enter into the reactions, both "being successively combined with the tetraazo body." There was no opposition; but the Comptroller refused the amendment on the ground that the invention would be enlarged or different. No alteration in the claim was proposed. The Law Officer allowed the amendment, the case being doubtful, and "if the patentee persists in an amendment, he persists at his peril; and if the patent is bad, so much the worse for him."<sup>1</sup> He said he was not convinced the grant was extended. "In the absence of very special circumstances, the Comptroller should neither give nor receive costs." *Lake's Patent*, Gr. L. O. C. 16.

The specification was ten years old. An amendment was allowed inserting a verbal description of one of the original diagrams representing a form of the invention that, in the opinion of the Law Officer, came within the description in the provisional. *Morgan's Patent*, Gr. L. O. C. 18.

A specification described improvements in packing-cases. Grooves were to be made round the case, in which wires were to be inserted. "Small wire loops, pointed at the ends, *may be* used instead of nails." It was amended by narrowing the claims to cases in which the wires were *secured by loops*. The Law Officer held that the idea of the invention was the grooving, and that the patentee could limit it to one of the ways shown for carrying it out. Where a specification is obviously open to two constructions, no declaration is necessary where the patentee desires to limit it to one construction only. *Ryland's Patent*, 5 R. P. C. 665.

<sup>1</sup> Since *Moser v. Marsden* (*post*, p. 374) this reason no longer holds.



*Applications allowed in Part.**Hampton & Facer's Patent, Gr. L. O. C. 13.*

The specification of a patent (No. 8981 of 1885) for "improvements in the method of casting steel ingots" described a method of casting by conveying the metal in channels (shown covered in) to the centre of each mould. The advantage of using a cover was alleged to be the exclusion of air. Suitable conduits, either "covered or uncovered, might be employed." The first claim was in the following terms: "In casting a number of steel ingots simultaneously and in groups, directing the molten metal from a central or common gate or opening, by means of gutters or passages, to holes or inlets situated centrally over each ingot mould in the group, whereby the metal is poured into the centre of each mould substantially as described and shown."

The amendments asked for were: (1) the excision of the statement that the object of the invention was simultaneous casting in several moulds; (2) the insertion of a statement that no separate claim was made to directing the metal to the centre of the moulds; (3) striking out the statement that "uncovered" passages might be used; (4) by the insertion of the following passage before the claims: "We are aware that the casting of steel ingots simultaneously through centrally situated nozzles or outlets is not new, as such simultaneous casting has been already put in practice with the aid of ladles, or open intermediate receivers held above or resting upon the moulds, and having a number of nozzles or outlets through which a number of moulds were filled simultaneously," &c. (the second part of the suggested paragraph alleged that the said intermediate receivers had the disadvantage of exposing the metal to the atmosphere); and (5) by amending the claim so that it read as follows: "In casting a number of steel ingots simultaneously and in groups, directing the molten metal from a central or common gate or opening, by means of *covered in*<sup>1</sup> gutters or passages, to holes or inlets situated centrally over each ingot mould in the group, whereby the metal is *led through covered passages to*<sup>2</sup> the centre of each mould substantially as described and shown."

*Melling* opposed, on the ground that the amendments would prejudicially affect his rights under Patent 13022 of 1884, which was of ten months' earlier date, in which he claimed casting clusters of ingots by means of an intermediate receiver running centrally into the moulds.

The Comptroller allowed all the amendments except the second part of

<sup>1</sup> These words were inserted by the amendment.

<sup>2</sup> These words were substituted for "poured into."

the fourth. This was refused, because it reflected on *Melling's* patent, and there was no evidence that the earlier patent had the alleged disadvantages.

On appeal, the applicants were not allowed to file such evidence, having accepted the decision.

The Law Officer struck out the first part of the fourth amendment, and substituted the words: "We do not claim the casting of steel ingots simultaneously through centrally situated nozzles or outlets." No costs to either side.

*Serrell's Patent*, 6 R. P. C. 101.

A patent (No. 14983 of 1886) was granted for the "application of a solenoid for reinforcing electrical contacts." The invention was described as consisting "in reinforcing the actual contact between two contact-pieces of an electric circuit, by means of a solenoid."

The drawings showed a contact consisting of one part movable horizontally, to which was attached an arm, bearing on its end a contact surface, C, rounded (in section) in an arc of about 60°. The other surface, C', was semicircular in section, and attached to the end of an arm hinged and pressing against a spring. On the arm being moved horizontally, the first quadrant, C, rubbed against the second arm, the round contact-pieces, CC', sliding against each other. The solenoid, X, surrounded part of the horizontal part, so that when the current began to pass the solenoid drew the sliding part closer against the hinged portion.

The claim was for "the employment of a solenoid X and core A, for the purpose of reinforcing the contact between the contact-pieces CC' of an electrical circuit."

Amendments were asked to (a) alter the title to "Improvements in electrical contact devices; (b) to describe the invention as "an improved electrical contact device, the main purpose of which is to keep the contact-pieces clean;" and (c) to alter the claim to "the production of a scraping, and consequently cleaning, motion between the contact-pieces CC', by means of magnetic attraction created by the current passing between them, after said contact-pieces have been made to touch in any known manner."

The amendments as proposed were refused by the Comptroller and Law Officer. The Law Officer permitted the insertion of the words "in the manner hereinafter described" after the words "by means of a solenoid" (*supra*), and the variation of the claim so that it should read, "The employment of a solenoid X and core A for reinforcing the contact between the contact-pieces CC' of an electrical circuit in the manner hereinbefore described."

*Webster*, A.G.: "I think it would be beyond what is intended by the power of amendment under the Act of 1853, that there being a



distinct and specific claim to the operation of what is believed to be new, and there being no claim to the minor arrangement of the contact-pieces, the patentee should be allowed to strike out the whole of his claim, and insert an independent claim to a subordinate part. It is said this is justified on the ground that the patentee is afraid the patent would be held invalid, because *Hedges*, in a previous specification" (No. 719 of 1883) "has disclosed a method of reinforcing the contact by the action of a solenoid. As to that no amendment would make the claim good, and at any rate it is not the proper form of amendment to effect that purpose. The only way of dealing with it would be by, on the face of it, disclaiming what I may call the general use of solenoids and cores, and applying it to the particular mode herein described. It is for that reason, and because I think no harm will be done to the public, that I am willing, as part of my judgment, to allow the applicant to have a disclaimer in the form I have already indicated."

*Johnson's Patent*, 13 R. P. C. 659.

The specification (No. 6626 of 1885) was for the manufacture of saccharine. The specification described this new sweet compound as "anhydro-ortho-sulphamine benzoic acid" or "benzoic sulphinide," and the inventors called it saccharine.

Two methods of manufacture were described. The first consisted in converting, by a series of reactions, a mixture of two isomeric toluene-monosulphonic acids into the corresponding isomeric ortho- and para-sulphochlorides. The para compound was a solid, and was separated by means of a centrifugal machine. Directions were given for removing "the last traces" of it by cooling and again using the machine. The ortho compound was liquid, and when further operated on as directed produced anhydro-ortho-sulphamine benzoic acid or benzoic sulphinide. A second method was also described.

The first claim was: The process described as the first method for manufacturing anhydro-ortho-sulphamine benzoic acid or benzoic sulphinide or saccharine with employment of one or all of the reactions set forth in the specification.

The second, third, and fourth claims related to the second process.

The fifth and sixth claims were for the "production of anhydrous-ortho-sulphamine benzoic acid or benzoic sulphinide or saccharine" having the properties, and by means of the methods, described.

The proposed amendments consisted in: (a) minor corrections and the excision of the second method and its claims; (b) the excision of the words "anhydro-ortho-sulphamine benzoic acid or benzoic sulphinide or" from the other claims and corresponding parts of the

specification; (c) the substitution of the words "as much as possible" for "the last traces" in the directions as to removing the para compound; (d) the insertion of words showing that the sweet compound was not quite pure as implied in the specification; and (e) after the word "saccharine" the insertion of the following words: "but as its sweetening qualities depend solely on the presence of anhydro-ortho-sulphamine benzoic acid (it being a mixture of the same with an inert body, viz. para-sulphamine benzoic acid), the name 'saccharine' is also applied by them to that substance when isolated. In this specification the word will be used only for the mixed body, the other being designated by its scientific name," and the addition of a statement to the reactions.

The learned Law Officer rejected the chief amendments, being satisfied that the inventor did not at the date of the specification know of the presence of the inert para body in his saccharine; ". . . disclaimer is not to be used solely for the mere purpose of turning an insufficient description into a sufficient description. Of course it is to be used for the purpose of turning an ambiguous specification into a clear specification, but not for the purpose of turning an insufficient description into a sufficient description, especially if the amendment introduces subsequent knowledge." The substitution of the words "as much as possible" for the last traces was allowed, also the minor amendments and excision of the second process (a and c).

#### *Amendment during Legal Proceedings.*

When an action for infringement or a petition for revocation is pending, the specification can only be amended by obtaining leave of the Court. An application to amend by way of explanation or correction made to the Comptroller under sect. 18 is not suspended or stayed by reason of the subsequent presentation of a petition for revocation before the hearing by the Comptroller.<sup>1</sup> Where there are more actions than one, or a petition and an action, leave need not be obtained in each proceeding before any amendment can be made.<sup>2</sup> The provisions on the subject are contained in sect. 19 of the Act of 1883:—

19. In an action for infringement of a patent, and in a proceeding for revocation of a patent, the Court or a judge may at any time order that the patentee shall, subject to such terms as to costs or other-

<sup>1</sup> *Woolfe v. Automatic Picture Gallery, Ltd.*, 20 R. P. C. 177.

<sup>2</sup> *Re Hall*, 5 R. P. C. 307.



wise as the Court or a judge may impose, he at liberty to apply at the Patent Office for leave to amend his specification by way of disclaimer, and may direct that in the meantime the trial or hearing of the action shall be postponed.

This section is enacted by way of proviso to sect. 18, and deals with the case exempted by sub-sect. 10.<sup>1</sup> Hence the provisions of sect. 18 apply in all respects to applications under sect. 19 as if the words "correction or explanation" were omitted from the first subsection ;<sup>2</sup> only a real disclaimer with consequential corrections will be allowed.<sup>3</sup> The section applies only to actions and petitions before judgment in the High Courts of Justice<sup>4</sup> and in the Palantine Court of Lancaster.<sup>5</sup>

On the application for leave to amend the Court will go into the question of the proposed amendments in order to see if a *prima facie* case has been made out for amending at all ;<sup>6</sup> it will not go into or decide on the admissibility of the proposed amendments, but leave that duty to the Comptroller and Law Officers.<sup>7</sup> But the Court may go into the question of the proposed amendments and the merits of the case with a view to judge of what are the proper conditions to impose.<sup>8</sup> The Court is not limited by the provisions of sect. 20 (*post*, p. 492) limiting the damages (unless the "original claim was framed in good faith and with reasonable skill and knowledge") to infringements after amendment, but may order that no damages shall be recovered nor injunction granted for acts committed before the disclaimer.<sup>9</sup> Nor is the Law Officer so limited.<sup>10</sup>

Where a petition for revocation has been presented, and it is held that the patent is invalid, the order of the Court usually includes a stay of proceedings<sup>11</sup> in order to give the applicant an opportunity of amending the specification, or appealing, before the patent is struck off the Register under sect. 20 (*post*, p. 492) and

<sup>1</sup> *Singer v. Stassen*, 1 R. P. C. 123.

<sup>2</sup> *Lang's Patent*, 7 R. P. C. 471 (8) ; *Armstrong's Patent*, 14 R. P. C. 754 (44).

<sup>3</sup> *Owen's Patent*, 15 R. P. C. 760.

<sup>4</sup> *Cropper v. Smith*, 1 R. P. C. 254 ; *Lawrence v. Perry*, 2 R. P. C. 130.

<sup>5</sup> *Winter v. Baybut*, 1 R. P. C. 76.

<sup>6</sup> *Armstrong's Patent*, 14 R. P. C. 755 (15). See also *Re Hall*, 5 R. P. C. 310 (25).

<sup>7</sup> *Dellwik's Patent*, 13 R. P. C. 591.

<sup>8</sup> Per *Webster*, M.R., in *Allison's Patent*, 17 R. P. C. 516.

<sup>9</sup> *Lang v. Whitecross, &c.*, 7 R. P. C. 389.

<sup>10</sup> *Ludington, &c., Co. v. Baron, &c.*, per *Rigby*, L.J., 17 R. P. C. 217.

<sup>11</sup> See *Deeley v. Perkes*, 13 R. P. C. 589 ; *Armstrong's Patent*, 14 R. P. C. 755.

Rule 60 (*post*, p. 538). When the request for amendment is made at the Patent Office, an official or verified copy of the order of the Court must be left too.<sup>1</sup>

*The Terms usually imposed.*

As the Court exercises a judicial discretion when leave is applied for, the Judge cannot be fettered by any rule or precedents as to the mode in which that discretion is exercised in any particular case ;<sup>2</sup> and, unless the decision be clearly wrong the Court of Appeal will not interfere with it.<sup>3</sup> "It requires a very strong case to show that the judges invested with that discretion have either exceeded the limits of the discretion given to them or have exercised it upon some principle which is inconsistent with the general law."<sup>4</sup>

The exercise of the discretion of the Court does not interfere with the exercise of the discretion of the Law Officer under sect. 18 (7).

The general rule followed is that the terms imposed must allow of full compensation to those against whom leave to amend is asked, such as the payment of costs up to the time of leave being granted.<sup>5</sup> Then again arises the question of allowing the amended specification to be sued upon in the action. In the absence of evidence of the applicant's knowledge of the invalidity of his patent and of such conduct as induced the defendants to set up an infringing trade, no condition has been imposed as to not taking an action on the amended claims.<sup>6</sup> In cases of petitions for revocation the conditions are imposed as much in the interests of manufacturers generally as in those of the party presenting the petition.

Although not creating precedents, the following cases may be referred to as illustrating the application of the foregoing principles :—

*Illustrations.*

Where the applicants had patented "improvements in the construction of wire ropes," which consisted in laying the strands in the rope by the same lay as the wires in the strand, and sought to amend

<sup>1</sup> Rule 43, *post*, p. 536.

<sup>2</sup> *Allen v. Doulton*, per Lord Fisher, M.R., 4 R. P. C. 383.

<sup>3</sup> *Armstrong's Patent*, 14 R. P. C. 747.

<sup>4</sup> *Ludington, &c., Co. v. Barron, &c.* (per Lord Halsbury, L.C.), 17 R. P. C. 748.

<sup>5</sup> *Gaulard v. Lindsay*, 5 R. P. C. 192; *Meyer v. Sherwood*, 7 R. P. C. 283.

<sup>6</sup> *Codd v. Brutby*, 1 R. P. C. 210.



by confining their claim to such when made by machinery in use at the date of the patent, it was *held* that the alteration was not mere disclaimer, but a different invention for the use of existing machinery to produce an old result. *Lang's Patent*, 7 R. P. C. 469.

At the hearing of an action for infringement, a patent was held invalid in respect of four claims. On appeal this decision was supported as to three of them, the other not being argued. An application was made to disclaim the three claims and explain the other. A petition for revocation was then presented. The Court gave leave to go before the Comptroller, and adjourned the hearing of the petition for revocation. *Deeley's Patent*, 11 R. P. C. 72.

A patent was obtained for improvements in the process of treating incandescents for use in gas lamps or burners. The description in the specification was based on an erroneous theory. It described the coating of those parts of bad heat-conducting incandescents (made with lime, zircon, or magnesia) from which light was to be disseminated with substances that are better conductors of heat, e.g. chromium, niobium, wolfram, cobalt, copper, platinum, iridium, &c., or their oxides; the latter not being quite so good. The amendments consisted in discarding all the coating materials except oxide of chromium. Three claims were to be struck out, and the first altered as follows (the bracketed words to be omitted and the italics inserted):—"The herein described process of treating incandescents [which are non-conductors of heat, such as], *made of* the oxides of calcium, magnesium, aluminium, zirconium [and similar metals of this group], or compounds of these oxides, by covering or saturating them with a coating of [refractory] *chromium* oxide [of a heavy metal or metals]." The opponents relied on a patent owned by them for the use of chromium as indicated by the proposed amendments, and alleged that the proposed changes constituted a claim for what was a new invention—one by selection. *Held* that the proposed alterations amounted to merely disclaimer of the use of certain substances, retaining one, as there was no need to give any theory at all as to the action of the substances used. *Dellwik's Patent*, 15 R. P. C. 682.

A patentee claimed the use of pipes of novel form in a certain class of water-closets. His particulars of breaches were drawn with respect to alleged breaches of the patent with respect to these pipes. He applied for leave to apply to the Comptroller for leave to amend and confine his claim to the precise combination described. The amendments would necessitate amendments in the particulars, and leave only the writ and statement of claim as before. Leave was granted upon the condition that the amended specification should not be used in evidence at the trial. *Allen v. Doulton*, 4 R. P. C. 385.

Where the action was taken for alleged infringement of one claim, and leave was asked to apply at the Patent Office for leave to disclaim another claim before delivery of the statement of claim, the plaintiffs were allowed to use the amended specification in the action, which was stayed until a proper disclaimer had been made. The plaintiffs were to pay the defendants' costs up to the disclaimer. *Fusee Vesta Co. v. Bryant & May*, 4 R. P. C. 72.

But where the pleadings were closed, and the patent was held invalid in another action, leave to apply for disclaimer was given, and to proceed upon the amended specification, subject to the condition that the plaintiff paid all costs up to time of disclaimer, except the costs of such of the original pleadings as would be utilized in the trial. *Haslam, &c. v. Goodfellow*, 5 R. P. C. 30.

A condition was imposed in *Chatwood, &c., Co. v. Ratner Safe Co.*, that the plaintiffs should discontinue threats until the amendment was made. 16 R. P. C. 450.

Where, after a petition for revocation had been presented, it was sought to disclaim twenty claims out of twenty-two, a condition was imposed that no action should be brought for the making of machines or *parts* of machines prior to the order. The two claims retained related to parts of the machine in question. *Held* (by the House of Lords) that this was not an improper exercise of discretion. *Ludington, &c., Co. v. Baron, &c., Co.*, 17 R. P. C. 747 (followed in *Allison's Patent*, 17 R. P. C. 513). But on hearing the application the Law Officer refused to impose a similar condition asked for up to date of amendment, on the ground that the opponents knew of the intended amendment and acted at their own risk. *Pitt's Patent*, 18 R. P. C. 480.

#### *Foreign and Colonial Applications.*

Persons resident outside the United Kingdom (whether British subjects or not) can obtain British patents by means of an agent within the realm, who is the "importer" of the invention and trustee for the real inventor (*ante*, p. 48).

In addition to those opportunities, the Act of 1883 gives power to persons resident in certain foreign countries and in British Possessions, to apply directly for a British patent, and have the same dated as of the date of the first protection obtained abroad in any of the specified countries.

The provisions with respect to foreign countries are contained in sect. 103 (*post*, p. 508) and in the International Convention (*post*, p. 576), those relating to British Possessions are contained in sect. 104.



The countries to which the 103rd section applies are set out (*post*, p. 596). The provisions of that section are applied from time to time to British Possessions by Order in Council, with, where necessary, variations or additions. In connection with this branch of the subject the terms "foreigner" or "foreign patentee" include British subjects and citizens of foreign states resident in British Possessions.

The foreign or colonial applicant must file his application within twelve months of the date of application for the foreign or colonial patent he has obtained. The application must be accompanied by a complete specification.<sup>1</sup> Protection is given as from the date of the foreign or colonial application, but no damages can be recovered for infringement committed before the acceptance of the specification.<sup>2</sup> The protection of the section cannot be extended to cases where an applicant applies in the ordinary way during the twelve months, and after that period but before the grant applies to have the patent antedated.<sup>3</sup>

This privilege is only granted by the Act to the patentee, and cannot be exercised by his agent.<sup>4</sup> The foreign or colonial patentee may be a corporation.<sup>5</sup>

The application must also contain a declaration that foreign or colonial application has been made to protect the same invention, and must specify all foreign states or British Possessions in which such applications have been made, and the official dates thereof. It must be signed by the person or persons by whom such foreign or colonial applications have been made. If one or more such persons be dead, the application must be signed by their legal representatives.<sup>6</sup> Form A 2 (*post*, p. 549) must be used, and copies be furnished with the application of the foreign specifications and drawings, and other documents filed or deposited by the applicant abroad in respect of the first foreign or colonial application, duly certified by the proper official or otherwise verified to the satisfaction of the Comptroller. If the deposited documents be in a foreign language, all

<sup>1</sup> Sect. 103 (1) of Act of 1883, *post*, p. 508; 1 Edw. 7 c. 18, *post*, p. 522.

<sup>2</sup> Sect. 103 (2) of Act of 1883, *post*, p. 509.

<sup>3</sup> *British Tanning Co. v. Groth*, 8 R. P. C. 113; *Acetylene Illuminating Co. v. Un. Alkali Co.*, 20 R. P. C. 161.

<sup>4</sup> *Shallenberger's App.*, 6 R. P. C. 550.

<sup>5</sup> *Care's App.*, 6 R. P. C. 552.

<sup>6</sup> Rule 13, *post*, p. 528.

translations must be annexed thereto and verified by statutory declaration or otherwise to the satisfaction of the Comptroller.<sup>1</sup>

If the complete specification left with the application be not accepted within twelve months from the date of the first foreign application, it will be open to public inspection.<sup>2</sup>

This section (103) applies to persons who have applied for patents abroad, although such be not granted at the date of application in England.<sup>3</sup>

In cases in which the applicant under this section applies in England *after* an application is made for a British patent by another in the usual way, he cannot oppose the grant of the British patent,<sup>4</sup> although under the provisions of sect. 103 his patent will be dated earlier than the British one.<sup>5</sup> In granting the application under this section there is no power to impose terms.<sup>6</sup>

Persons registered under this enactment must, in case amendments be required, proceed in the same way as in the case of a British patent. For instance, an amendment to substitute "the manufacture of" for "a process of preparing" in the specification relating to dyes was not allowed on the ground that it might enlarge the claim, although such amendment might be necessary to give the same protection in the kingdom as abroad.<sup>7</sup>

Where, between the date of the foreign application abroad and the date of the application for ante-dating under this enactment, a British patent is applied for and granted to some other person, it is open to argument that the rights of the latter are not interfered with.<sup>8</sup> The resident in a foreign state or British colony, which comes under the convention after the date of the foreign application, may apply for registration under the Convention if within the prescribed time from his original application abroad.<sup>9</sup>

The Comptroller enters the patent on the Register of Patents as of the date of the first foreign application.<sup>10</sup>

Where a foreign application has proved abortive, and no rights have been secured under it, the twelve months run from the date of a second and successful application abroad.<sup>11</sup>

<sup>1</sup> Rule 14, *post*, p. 529.

<sup>2</sup> Rule 15, *post*, p. 529; 1 Ed. 7 c. 18, s. 1 (2), *post*, p. 522.

<sup>3</sup> *Carez App.*, 6 R. P. C. 552.

<sup>4</sup> *Everitt's Patent*, Gr. L. O. C. 28.

<sup>5</sup> *L'Oiseau & Pierrard*, Gr. L. O. C. 39.

<sup>6</sup> *Ibid.*

<sup>7</sup> *Vidal's Patent*, 15 R. P. C. 721.

<sup>8</sup> *Main's Patent*, 7 R. P. C. 15 (40).

<sup>9</sup> *Ibid.*, p. 13.

<sup>10</sup> Rule 52, *post*, p. 537.

<sup>11</sup> *Van de Poele's Patent*, 7 R. P. C. 69.



## PART II.

### ABSTRACTS OF LEADING AND ILLUSTRATIVE CASES.

BEFORE any selection of the following cases was made all the reported cases (about 350 in number) in which the validity of a patent was in issue were examined, each being separately compared with every reported judgment in which it was mentioned. The results of such investigations are (in the cases of which abstracts are here given) embodied in the notes to each. The precise weight attached to any authority by the learned judges in the subsequent cases can thus be easily ascertained.

The foregoing method of procedure enabled the author to ascertain those cases which are the most suitable for illustrating the principles on which the validity of a patent depends, as, for instance, those in which any rule was first enunciated or modified.

As to the practice of referring to cases as authorities for, or as illustrations of, the application of legal principles, one may here quote the Lord Chancellor's remarks in recent cases: "There are two observations of a general character which I wish to make, and one is to repeat what I have very often said before, that every judgment must be read as applicable to the particular facts proved, or assumed to be proved, since the generality of the expressions which may be found there are not intended to be expositions of the whole law, but governed and qualified by the particular facts of the case in which such expressions are to be found. The other is that a case is only authority for what it actually decides. I entirely deny that it can be quoted for a proposition that may seem to follow logically from it." <sup>1</sup> And again:—"Occasional observations made by a learned Judge upon the subject of the facts in a particular case have been from time to time misunderstood, as conveying some opinion upon the subject of the general law, and have given rise to confusion." <sup>2</sup> Hence the importance of being acquainted with the facts of the cases relied on as authorities. In the following pages the facts are given as fully as can conveniently be done, and especially in cases on Disconformity and Sufficiency, which are of importance to the inventor. The effect of the decisions is given, and in some cases extracts from the judgments. The latter are either those that have become

<sup>1</sup> Per Lord *Halsbury*, L.C., in *Quinn v. Leathem* (1901), A. C. 506.

<sup>2</sup> Per Lord *Halsbury*, L.C., in *Pickard v. Prescott*, R. P. C. 200.

classical through subsequent decisions, or such as explain the reasons for the decisions arrived at.

The cases are selected from those decided in the Courts of Appeal or the House of Lords; some have been omitted as being of such a technical character that they could not be conveniently explained in the space at the author's disposal; a few decided in the Courts of First Instance, of special application, have been included. The earlier cases have been selected as above mentioned, and the later ones as being "on the border line," and therefore useful as examples of the limits of the rules.

In making the following abstracts, no trouble has been spared to elucidate the facts; in addition to the usual reports, the original specifications have always been used, and the author has had the advantage of frequent reference to the cases and appendices of the parties in cases before the House of Lords collected in the library of the Inner Temple.

In many cases, however, he has been enabled to use original *verbatim* reports and exhibits by the courtesy of the proper custodians of them.

An analytical list of the abstracted cases will be found in the Table of Contents.

1785. R. v. ELSE, 1 Webs. 76.

*Claim too wide.*

A patent was granted to *A. Else* (1779) for "a certain new invented manufacture of lace, called French or wire-ground lace, which is much stronger than any hitherto invented or found out, and also of an entire new construction." The specification described the mixing of silk, or other substance, to accomplish the same purpose with thread, flax, cotton, etc., so as to produce an even lace.

It was proved in proceedings for a *scire facias* to repeal the patent that silk and cotton threads had been mixed before on the same frame, but that the resulting product had not the same evenness, firmness, or strength as that produced by the newer process.

Per *Buller, J.*: The patent claims the exclusive liberty of making lace, composed of silk and cotton thread mixed; not of any particular mode of mixing it; and therefore, as it has been clearly proved and admitted that silk and cotton thread were before mixed on the same frame for lace, in some mode or other, the patent is clearly void, and the jury must find for the Crown."

Bull. N. P. 76.

"The patent must not be more extensive than the invention; therefore if the invention consist in an addition or improvement only, and the patent is for the whole machine or manufacture, it is void. Per Lord *Mansfield* in different cases, and by *Buller, J.*, in *R. v. Else*, sittings at Westminster after M 1785."



**Note.**

The last paragraph was quoted by *Park, J.*, in *Bovill v. Moore*, 2 Marsh 214; by Lord *Denman, C.J.*, in *Cooke v. Pearce*, 8 Q. B. 1052; and regarded as settled law by Lord *Penzance*, in *Harrison v. Anderston Foundry Co.*, 1 App. Ca. 591, but as inapplicable to a case where the Court has no evidence before it but the specification itself.

1787. TURNER v. WINTER, 1 Webs. 77; 1 T. R. 602.

*False Suggestion—Insufficiency—Misleading.*

The patent was granted for “a method of producing a yellow colour for painting in oil or water, making white lead, and separating the mineral alkali from common salt, all to be performed in a single process.”

The specification contained directions (1) to “take any quantity of lead and calcine it, or minium, or red lead”—whereas minium would not produce the result required without calcination and fusion; (2) to “add half the weight of sea salt, with a sufficient quantity of water to dissolve it, or rock salt, or sal gem, or fossil salt, or any marine salt, or salt water, proper for the purpose”—whereas “fossil salt” was a generic term, and included sal gem, which was the only one mentioned that would serve the purpose; and (3) white lead could not be produced, but a substance very like it.

It was proved that scientific persons would know or discover the necessity of prolonging the process until fusion took place; that “marine salt” was the basis of the process, and no scientific person would take a “fossil salt” that was not also a “marine salt;” that the substance called “white lead,” although not common ceruse, was a white substance with a basis of lead.

On a motion for a new trial the following propositions were laid down:—

By *Ashurst, J.*: The specification must be unequivocal; if ambiguity be introduced or anything tending to mislead the public the patent is void. 1 Webs. 80; 1 T. R. 605 (followed in *Coles v. Baylis*, 3 R. P. C. 180).

By *Buller, J.*: “If the patentee says that by one process he can produce three things, and he fails in any one, the consideration of his merit and for which the patent was granted fails, and the Crown has been deceived in the grant. Slight defects in the specification will be sufficient to vacate the patent.” *Liardet v. Johnson* (*ante*, p. 75) was then referred to as an example of this.

The patent was held void for false suggestion and insufficiency.

**Note.**

This case has been followed in *Boulton v. Bull*, 2 H. Bl. 492; *Hill v. Thompson*, 1 Webs. 243; *Crompton v. Ibbotson*, D. & Ll. 34; *Derosne v. Fairie*, 1 Webs. 164; *Walton v. Bateman*, 1 Webs. 622; *Wegman v. Corcoran*, 13 Ch. D. 77; *Coles v. Baylis*, 3 R. P. C. 178. It has never been questioned.

1802. TENNANT'S CASE, 1 Webs. 125.

*Patentee adopted Suggestion from Another—Prior Secret Use.*

Plaintiff's patent was dated 1798, for a method of using certain calcareous earths in bleaching. The defendant proved that a bleacher had used the same means of preparing his bleaching liquor five or six years previously, but had kept it a secret from all persons save his two partners and two servants connected with preparing it. A chemist deposed that, in conversation, he suggested to the plaintiff as an improvement, agitation of the bleaching liquids. This the plaintiff subsequently declared in his specification to be the spirit of that part of the invention. Lord *Ellenborough*, C.J., nonsuited the plaintiff on the grounds (1) of prior user and (2) that the plaintiff was not the true inventor of the process of agitation of the lime water, which process he had claimed.

**Note.**

This case as to the second point was followed by *Dalles*, J., in *Hill v. Thompson & Forman*, 1 Webs. 245.

1809. HARMAR *v.* PLAYNE, 11 East, 101.*Sufficiency—Improvement—Distinguishing New from Old.*

The plaintiff obtained a patent in 1787 for a machine for dressing woollen cloths. The specification was duly enrolled.

In 1794 a second patent was granted to *Harmar*. This patent recited the first, but not the first specification, and also "that he had invented considerable improvements in the said machine," and granted him the monopoly "to make, use, and vend *his said invention*."

The specification of this second invention gave, by letterpress and drawings, a full description of the *whole* of the machine, and concluded: "And I do hereby declare that my said invention is intended to be worked in the manner hereinbefore particularly mentioned." The specification did not distinguish what was new from what was old, the improvements could only be ascertained by a comparison of the two specifications.

During the argument for the plaintiff it was urged that the specification need not give everything at length, but might refer to sources of knowledge which persons of reasonable skill ought to know.

Lord *Ellenborough*, C.J., pointed out that references to standard works would be inconvenient for those who did not possess them, and leave the specification wholly unintelligible if the description were confined to the newly invented parts, the object of the specification being "to enable persons of reasonable intelligence and skill in the subject-matter to tell from the inspection of the specification itself what the invention was for which the



patent was granted." <sup>1</sup> The specification might mislead as to inclusion of old machine.

*Le Blanc*, J. (p. 111), pointed out that a mere description of the new parts would be unintelligible unless the reader was familiar with the first specification.

Lord *Ellenborough*, C.J. (p. 113), agreed with this proposition. "Reference must, indeed, often necessarily be made in these cases, to matters of general science, or the party must carry a reasonable knowledge of the subject-matter with him in order to clearly comprehend specifications of this nature."

The Court [Lord *Ellenborough*, C.J., *Grose*, *Le Blanc*, and *Bayley*, JJ.] subsequently decided that the specification had duly described and ascertained the nature of the invention.

### Notes.

This case was quoted as an authority that a patent may be taken out which includes the subject-matter of one still running: *Tindal*, C.J., in *Crane v. Price*, 12 L. J. C. P., 88.

In *Foxwell v. Bostock* (4 De G. J. & S. 312) Lord *Westbury* distinguished *Harmar v. Playne* because the previous patent and specification were recited in the second, and treated it as an exception to the rule that the specification of an "improvement" invention must describe the novel improvement; but in *Parkes v. Stevens* Lord *Hatherley*, L.C. (L. R. 5 Ch. Ap. 37) remarked on the divergence between this case and *Foxwell v. Bostock* (*post*, p. 225), and said, "I think there is so much good sense and justice in the doctrines established by *Harmar v. Playne* that it is not a case that ought to be easily impeached by a later decision."

1817-18. HILL v. THOMPSON & FORMAN, 1 Webs. 225.

*Construction—Absence of Reference to Previous Use—Failure of Part is Failure of Consideration.*

The patent was for "certain improvements in the smelting and working of iron."

The specification described in detail three improvements. First: The process by which the iron contained in various sorts of slags or cinders is made into bar iron. Secondly: "In the use and application of lime to iron, subsequently to the operations of the blast furnace, whereby that quality in iron from which iron is called 'cold short,' howsoever and from whatever substance such iron be obtained, is sufficiently prevented or remedied, and by which such iron is rendered more tough when cold." Details of the methods employed with quantitative proportions were given. Thirdly: "And I do further declare that I have discovered that the addition

<sup>1</sup> Referred to with approval by Lord *Westbury*, L.C., in *Foxwell v. Bostock*, 4 De G. J. & S. 312.

of lime to limestone, or other substances consisting chiefly of lime, and free or nearly free from any ingredient known to be hurtful to the quality of iron, will sufficiently prevent or remedy that quality in iron, from which iron is called 'cold short,' and will render such iron more tough when cold." Details of the application of this principle were given.

An injunction was obtained against the defendants (3 Mer. 622).

The plaintiff having obtained a verdict moved to revive the injunction. (p. 626). But the defendants intended to move for a new trial. In refusing the injunction<sup>1</sup> :—

Lord *Eldon*, L.C., said (1 Webs. 237) : " In<sup>2</sup> his direction to the jury, the judge has stated it as the law on the subject of patents—first, that the invention must be novel ; secondly, that it must be useful ; and thirdly, that the specification must be intelligible. I will go further, and say, that not only must the invention be novel and useful, and the specification intelligible, but also that the specification must not attempt to cover more than that which, being both matter of actual discovery, and of useful discovery, is the only proper subject for the protection of a patent. And I am compelled to add, that if a patentee seeks by his specification any more than he is strictly entitled to, his patent is thereby rendered ineffectual, even to the extent to which he would otherwise be fairly entitled. On<sup>4</sup> the other hand, there<sup>6</sup> may be a valid patent for a new combination of materials previously in use for the same purpose, or for a new method of applying such materials. But in order to its being effectual, the specification must clearly express that it is in respect of such new combination or application,<sup>5</sup> and of that only, and not lay claim to the merit of original invention in the use of the materials.<sup>3</sup> If there be a patent both for a new machine and for an improvement in the use of it, and it cannot be supported for the machine, although it might be for the improvement merely, it is good for nothing altogether, on account of its attempting to cover too much.<sup>7</sup> . . .

"The (p. 238) question of law, upon the whole matter, is, whether this is a specification by which the patentee claims the benefit of the actual discovery of lime as a preventive of 'cold short,' or whether he claims no more than the invention of that precise combination, and those peculiar processes which are described in the specification."

A rule *nisi* was obtained to set aside the verdict, enter a nonsuit, or

<sup>1</sup> Owing to the present procedure being quite different (*Bacon*, V.C., in *Coles v. Baylis*, 3 R. P. C. 182), as "there is no other Court than that in which the action is brought to which any recourse can be had," only a portion of the judgment is now in point.

<sup>2-3</sup> This passage was quoted and followed by *Best*, J., in *Brunton v. Hawkes*, 4 B. & Ald. 555.

<sup>4-5</sup> Quoted and followed by *Tindal*, C.J., in *Crane v. Price*, 12 L. J. C. P. 86, also by *Hill*, J., in *Harwood v. G. N. Ry. Co.*, 29 L. J. Q. B. 200. In *Clark v. Adie*, L. R. 2 Ap. Ca. 334, Lord *Blackburn* distinguished that case from this, saying that in this case Lord *Eldon* first enunciated the principle that "old things used in a combination producing different or new results may be the subject of a patent." This case and principle were expressly followed by *Bristowe*, V.C., in *Proctor v. Bennis*, 4 R. P. C. 339.

<sup>6-7</sup> This passage is quoted by Lord *Denman*, C.J., in *Cooke v. Pearce*, 8 Q. B. 1053, along with *R. v. Else*, ante, p. 180, and *Jessop's Case* (2 H. Bl. 463), as containing an authoritative statement of the law.



have a new trial, on (1) the grounds urged at the trial, and also (2) that the verdict was against the weight of evidence, as lime had previously been used to prevent "cold short," and as bar iron had been produced from slags and mine-rubbish before the date of the patent.

The rule was granted and judgment delivered by *Dallas*, J., who first dealt with the want of evidence as to infringement; he then commented on the cases of *Dollond* (*ante*, p. 50) and *Tennant* (*ante*, p. 182), contrasting them and illustrating want of novelty (including question of true and first inventor) by the case of *Arkwright's* roller and crank, and applying those precedents to the case before him. He then commented on the evidence of want of novelty in the use of lime, as described, to prevent "cold short," and continued: "So far, therefore, the application of lime is, in terms, claimed as an improvement, and nothing is said of any previous use, of which the use proposed is averred to be an improvement; it is therefore, in substance, a claim of entire and original discovery. The recital should have stated, supposing a previous use to have been proved in the case, that 'whereas lime has been in part, but improperly, made use of, etc.,' and then a different mode of application and use should have been suggested as the improvement claimed."

The learned judge discussed the specification with respect to the alleged discovery of the prevention of "cold short" by the use of lime, and held it was (1 *Webs.* 247) "a claim of discovery in the most extensive sense, of the effect of lime applied to iron to prevent brittleness not qualified and restrained by what follows as to the preferable mode of applying it under various circumstances; and therefore rendering the patent void, if lime had been made use of for this purpose before, subject to the qualification only of applying it subsequently to the operations in the blast furnace." The learned judge referred to *Arkwright's* case and *Aiken's* Dictionary and evidence of witnesses, and continued (p. 249): "On this part of the case I will only further remark, that if any part of the alleged discovery, being a material part, fail (the discovery in its entirety forming one entire consideration) the patent is altogether void; and to this point, which is so clear, it is unnecessary to cite cases." *Held* that the patent was invalid.

#### Notes.

In *Brunton v. Hawkes* (4 B. & Ald. 541) the patent was for improvements in the construction of anchors, windlasses, and chain cables. The improvements in anchors had been anticipated. In that case *Abbott*, C.J. (at p. 551), and *Best*, J. (at p. 555), referred to the facts and judgments in *Hill v. Thompson* as being decisive on the question that a patent taken out for more than the patentee was entitled to is void altogether. Baron *Parke*, in *Morgan v. Seaward* (1 *Webs.* 196), puts the avoiding of the patent on the ground of false suggestion. "It is on the same principle" (that a false suggestion of the grantee avoids an ordinary grant of lands from the Crown) "that a patent for two or more inventions, when one is not new is void altogether, as was held in *Hill v. Thompson* and *Brunton v. Hawkes*."

1819. R. v. WHEELER, 2 B. & Ald. 345.

*Disconformity—Sufficiency.*

*Scire facias* to repeal a patent for “a new and improved method of drying and preparing malt.”

The specification was as follows:—

“My invention consists in the heating of malt to 400° F. and upwards, according to a process or processes hereafter described, and in so heating it that the greater part of the saccharine and amylaceous principles of the grain become changed into a substance resembling gum and extractive matter, of a deep-brown colour, readily soluble in hot or cold water.” Different kinds of apparatus and methods were next described. “The proper degree of heat and time of exposure will be easily learned by experience, the colour of the internal part of the prepared grain affording the best criterion.”

No statement was made as to what was the colour which was to be the criterion.

In delivering the judgment of the Court, *Abbott*, C.J., pointed out that the patent was for “preparing” (*i.e.* making) malt, and the specification described only a method of drying malt already made. Hence there is a false suggestion to the Crown. “Manufacture” includes processes.<sup>1</sup> The patentee in his specification claims to be the inventor of a process for making malt more soluble in water and colouring the liquor, the latter being the object in view. He does not describe a process of “preparing” malt.<sup>2</sup>

If this process was in truth a “preparing” of malt for a particular purpose, that purpose should have been mentioned. The patentee has not described any certain or precise process; nor the state in which the malt was to be used; nor the length of the process; nor maximum temperature. “A specification which casts upon the public the expense and labour of experiment and trial is undoubtedly bad.”<sup>3</sup> But if these points would be known to persons of competent skill, then the patentee has not discovered anything.

1822. HALL v. JARVIS, 1 Webs. 100.

*Inventive Ingenuity—Combination of Old Things.*

In 1817 a patent was granted to *J. S. Hall* for “a method of improving every kind of lace or net, or any description of manufactured goods whose fabric is composed of holes, or interstices, made from thread or yarn, etc.”

<sup>1</sup> See also *Gibson v. Brand* (1 Webs. 633); *Crane v. Price*, 12 L. J. C. P. 86; and *Harwood v. G. N. Ry. Co.*, 29 L. J. Q. B. 200.

<sup>2</sup> This is the real ground of decision. See *Neilson v. Harford*, 1 Webs. 312, 373, where this case is distinguished from that one.

<sup>3</sup> Quoted as authority in *Stevens v. Keating*, 2 Webs. 194, and in *Lane Fox v. Kensington, &c.*, 9 R. P. C. 248.



The machine consisted in an arrangement whereby the lace or other fabric was passed by means of rollers in an endless band over a flame of gas. The flame was drawn through the interstices by a chimney above the fabric singed. The rate of motion required in each case could only be determined by an actual experiment which could be easily performed.

It was proved that singeing had previously been done by means of oil and other flames, but not gas-flames; that gas-flames were well known and used for other purposes; that it was well known that flame would not (as in the Davy safety-lamp) ordinarily penetrate interstices; that bellows had been used for the purpose of singeing; and that the combination of a flame and chimney to ensure combustion by promoting draught (as in the Argand lamp) was also known.

*Held*, that the patent was valid.

### Notes.

The above case was referred to in *Losh v. Hague* (1 Webs. 207) by Lord Abinger, C.B., as being the application of a new contrivance to the same purpose as was effected by an old one, and by *Tindal, C.J.*, in *Crane v. Price* (12 L. J. C. P. 86) as an illustration of "the use of things already known, and acting with them in a manner already known, but producing those effects so as to be more economically or beneficially enjoyed by the public."

It will be observed that at this date the necessity of a certain amount of ingenuity, in addition to novelty and utility, to support a patent had not been generally discussed.

1841. NEILSON v. HARFORD, 1 Webs. 295.

### *Benevolent Construction—Utility.*

The plaintiff's patent (No. 5701 of 1828) was for the "improved application of air to produce heat in fires, forges, and furnaces, where bellows or other blowing apparatus are required." The specification stated that the blast of air might be made by any known means, and was "to be passed from the bellows or blowing apparatus into an air-vessel or receptacle made sufficiently strong to endure the blast, and through or from that vessel or receptacle by means of a tube, pipe, or aperture into the fire, forge, or furnace. The air-vessel or receptacle must be air-tight or nearly so, except the apertures for the admission and emission of the air, and at the commencement and during the continuance of the blast it must be kept artificially heated to a considerable temperature. It is better that the temperature be kept to a red heat or nearly so, but so high a temperature is not absolutely necessary to produce a *beneficial effect*. The vessel or receptacle may be conveniently made of iron, but as the *effect* does not depend on the nature of the material, other metals or convenient materials may be used. The

size of the air-vessel must depend upon the blast and on the heat necessary to be produced." Dimensions in cubic contents were then given for forges, iron-founders' cupolas, and blast furnaces. "The form or shape of the vessel or receptacle is immaterial to the *effect*, and may be adapted to the local circumstances or situation." The air-vessel may be heated from any source, and preferably enclosed in brickwork; "the manner of applying the heat to the air-vessel is, however, immaterial to the *effect* if it be kept at a proper temperature."

At the trial of this action for infringement several pleas were set up, amongst others insufficiency of the specification was alleged, and want of utility.

*Parke, B.*, in his address to the jury referred to the former practice of construing specifications strictly as against the patentee, and continued (1 *Webs.* 310): "Within the last ten years or more, the Courts have not been so strict in taking objections to the specification; and they have endeavoured to hold a fair hand between the patentee and the public, willing to give the patentee, on his part, the reward of a valuable patent, but taking care to secure to the public, on the other hand, the benefit of that proviso which is introduced into the patent for their advantage, so that the right to the patent may be fairly and properly expressed in the specification."<sup>1</sup>

The learned judge then dealt with the questions of infringement, objections to the title, and the extent of the claim.

On the question of sufficiency (p. 314): "You are not to ask yourselves the question whether persons of great skill—a first-rate engineer, or a second-class engineer—whether they would do it: because generally those persons are men of great science and philosophical knowledge, and they would upon a mere hint in the specification probably invent a machine which should answer the purpose extremely well; but that is not the description of persons to whom this specification may be supposed to be addressed—it is supposed to be addressed to a practical workman, who brings the ordinary degree of knowledge and the ordinary degree of capacity to the subject."<sup>2</sup>

The learned judge reviewed the evidence at length and explained the law as to sufficiency of directions.

Certain questions were left to the jury.

The jury found "that the shape and form are material to the effect, simply, that is to the extent of beneficial effect produced, not to producing some effect, for some beneficial result would be produced from any shape, and as to producing the extent of beneficial effect, the form and shape are material." They also found that the specification gave sufficient directions to enable an ordinary workman who knew of the old blowing apparatus to produce a beneficial result taking expense into consideration. They also found that no one would be misled by the specification.

The learned judge directed that judgment be entered for the defendants

<sup>1</sup> Quoted as the rule by *Kay, J.*, in *Edison & Swan v. Holland*, 5 R. P. C. 474.

<sup>2</sup> This passage is quoted as the rule by *Jessel, M.R.*, in *Stoner v. Todd*, 4 Ch. D. 61.



on the issue of insufficiency of the specification, as, on his construction of the specification, there was a misdirection (viz. that the form and shape were immaterial to the extent of the effect) in the specification itself, and that such could not be cured by parole evidence.

The plaintiffs appealed to the Exchequer Chamber.

During the argument Baron *Alderson* thus described the invention (p. 337): "What he really discovered is, that it would be better for you to apply air heated up to a red heat or nearly so, instead of cold air as you have hitherto done. That is the principle; that is the real discovery; but in order to take out a patent, you must have an embodiment of the principle, and his embodiment of the principle is the heating of the air in a separate vessel, intermediary between the blowing apparatus and the point where it enters the furnace."

During the argument on infringement and extent of the claim it was urged that every shape of vessel was included in the claim. Per *Alderson*, B. (p. 355): "Then I think that is a principle, if you claim every shape. If you claim a specific shape and go to the jury and say that which other people have adopted is a colourable imitation, then I can understand it. If you claim every shape you claim a principle. There is no difference between a principle to be carried into effect in any way you will and claiming the principle itself. You must detail some specific mode of doing it."<sup>1</sup>

The point at issue was thus stated by *Parke*, B., during the argument (p. 363): "Whether this Court is of opinion, comparing the specification with the fact that there is a clear misrepresentation in any part of it. The question is, whether that can be corrected by the evidence of men acquainted with the subject, who say they would be themselves able to correct that error by their knowledge of the subject. . . . That is the question I reserved for the opinion of the Court."<sup>2</sup>

The Court made the rule absolute to enter judgment for the plaintiff.

*Parke*, B., in dealing with the question of construction (p. 370): "The construction of all written instruments belongs to the Court alone, whose duty it is to construe all written instruments, as soon as the true meaning of the words in which they are couched, and the surrounding circumstances, if any, have been ascertained by the jury; and it is the duty of the jury to take the construction from the Court, either absolutely, if there be no words to construe as words of art, or phrases used in commerce, and the surrounding circumstances to be ascertained, or conditionally, where those words or circumstances are necessarily referred to them."<sup>3</sup>

The learned judge referred to his construction at the trial that the

<sup>1</sup> This is the real state of the law as it at present stands: per *Lindley*, L.J., in *Automatic Weighing Machine Co. v. Knight*, 6 R. P. C. 308. It is the proper limitation of the generality of the dictum in *Jupe v. Pratt*. *Nobel v. Anderson*, per *Kay*, L.J., 11 R. P. C. 527. Followed also in *The Ticket Punch, &c. v. Colley's Patent*, 12 R. P. C. 185.

<sup>2</sup> This question was not decided in this appeal, but in subsequent cases. See *ante*, pp. 76, 77.

<sup>3</sup> Quoted and followed by Lord *Westbury*, L.C., in *Hills v. Evans*, 31 L. J. Ch. 465.

specification meant that the shape was immaterial to the degree of effect in heating the blast—a statement that the jury found was not literally true. He continued: “But my lord and my brothers, after considerable hesitation, are of opinion that a construction may reasonably be put upon this clause which will support the patent; and though I myself still entertain great doubt whether such is the true construction, I am not prepared to say that it is not, and I am very glad, that in so meritorious an invention as this is admitted to be, in this view of the case the inventor will not be deprived of his reward.” The Court held that the word “effect” meant the beneficial effect of the blast in the furnace, and that consequently the statement was not contradicted by the finding of the jury.

### Notes.

*Neilson v. Harford* has been regarded as an authority that questions of construction determined from the specification above are for the Court exclusively: *Allen v. Rawson*, 1 C. B. 571. Per *Blackburn, J.*, in *Betts v. Menzies*, 31 L. J. Q. B. 239.

It also illustrates the rule that a small amount of utility will suffice to support a patent. Per *Jessel, M.R.*, in *Plimpton v. Malcomson*, 3 Ch. D. 582.

In *Young v. Hermand Oil Co.*, 9 R. P. C. 382, it was suggested by Lord *Herschell* that *Neilson v. Harford* showed that change of temperature in one retort might constitute a new process. As to this see *ante*, pp. 36, 37.

1841. KAY *v.* MARSHALL, 2 Webs. 34; 8 Cl. & F. 245.

*New Use of Old Machine—Real Invention wrongly described.*

In 1825 a patent (No. 5226) was granted to *J. Kay* for “new and improved machinery for spinning flax, hemp, and other fibrous substances by power.”

The specification was as follows:—

“I do hereby declare the nature of my said Invention to consist in new machinery for macerating flax and other similar fibrous substances previous to drawing and spinning it, which process I call preparing it; and also in improved machinery for spinning the same after having been so prepared. And in further compliance with the said proviso, I do hereby describe the manner in which I perform my said Invention by the following description; first, of the new machinery for macerating, and, secondly, of the improved machinery for spinning; reference being had to the drawing annexed, and the figures and letters marked thereon, that is to say—

#### “DESCRIPTION OF THE DRAWING.

“I will first describe the new machinery for the purposes of maceration.”

The description was continued by references to Figs. 1 and 2 of the drawings showing how the flax is prepared and macerated by means of rollers and the roving or sliver received into vessels through which water



permeated, and in which the roving was left for some hours. The specification continued:—

“Having now described the new machinery for the purposes of maceration, and which consists only of the vessels marked B, and the trough of water marked C, I will proceed to describe the improved machinery for spinning flax and other similar fibrous substances.

“Fig. 3 represents a side view in section of my improved spinning frame to be worked by power in any of the ordinary methods. D, D, is a wooden or other trough divided into compartments, each compartment having the contents of one of the macerating vessels emptied into it, in such manner that the said contents, when so emptied into it, may have the appearance represented in this Figure, and the best mode which I have found of doing this has been to turn the macerating vessel upside down carefully over the compartment, when the end of the roving or sliver will be easily found. E, E, represent the contents of two of the macerating vessels emptied as aforesaid. The ends of the roving or sliver being found, they are led over the roller G at the top of the frame H. From this roller G the roving or sliver is led between an ordinary pair of retaining rollers *e, e*, and a pair of drawing rollers *c, c*. The drawing rollers *c, c*, move at a pace eight times faster than the retaining rollers *e, e*, which retaining rollers I find answer better to be fluted. I place the drawing rollers only  $2\frac{1}{2}$  inches from the retaining rollers, and this constitutes the principal improvement in the said spinning machinery; for the roving being so completely macerated would not hold together to be drawn out while in such a state to the ordinary length of the staple, but this very state, when drawn in so short a length as here represented, enables it to be spun very fine and evenly; for it should be stated that there is no elasticity in the fibre of flax, hemp, nettle-weed, or other the like substances, but when drawn by rollers so placed as aforesaid, and moving at the relative speeds aforesaid, and in the completely saturated state aforesaid, the fibres themselves are pulled asunder, and require to be twisted immediately, or the continuity of the thread would be destroyed. This position of the rollers is not necessary in the ordinary mode of spinning such substances as aforesaid, for in the ordinary process the elongation of the skim only is effected by the process of drawing, and not the elongation of the fibres themselves which compose the skim; J is the thread or staple in its twisted or spun state, and L is the ordinary bobbin and fly.

“Now whereas I hereby declare that what I claim as my Invention in respect of new machinery for preparing flax, hemp, and other fibrous substances, are the macerating vessels marked B, and trough of water marked C; and that which I claim as my Invention in respect of improved machinery for spinning flax, hemp, or other fibrous substances, is the wooden or other trough marked D, for holding the rovings when taken from the macerating vessels, and the placing of the retaining rollers *e, e*, and the drawing rollers *c, c*, nearer to each other than they have ever before been placed, say within  $2\frac{1}{2}$  inches of each other, for the purpose aforesaid.”

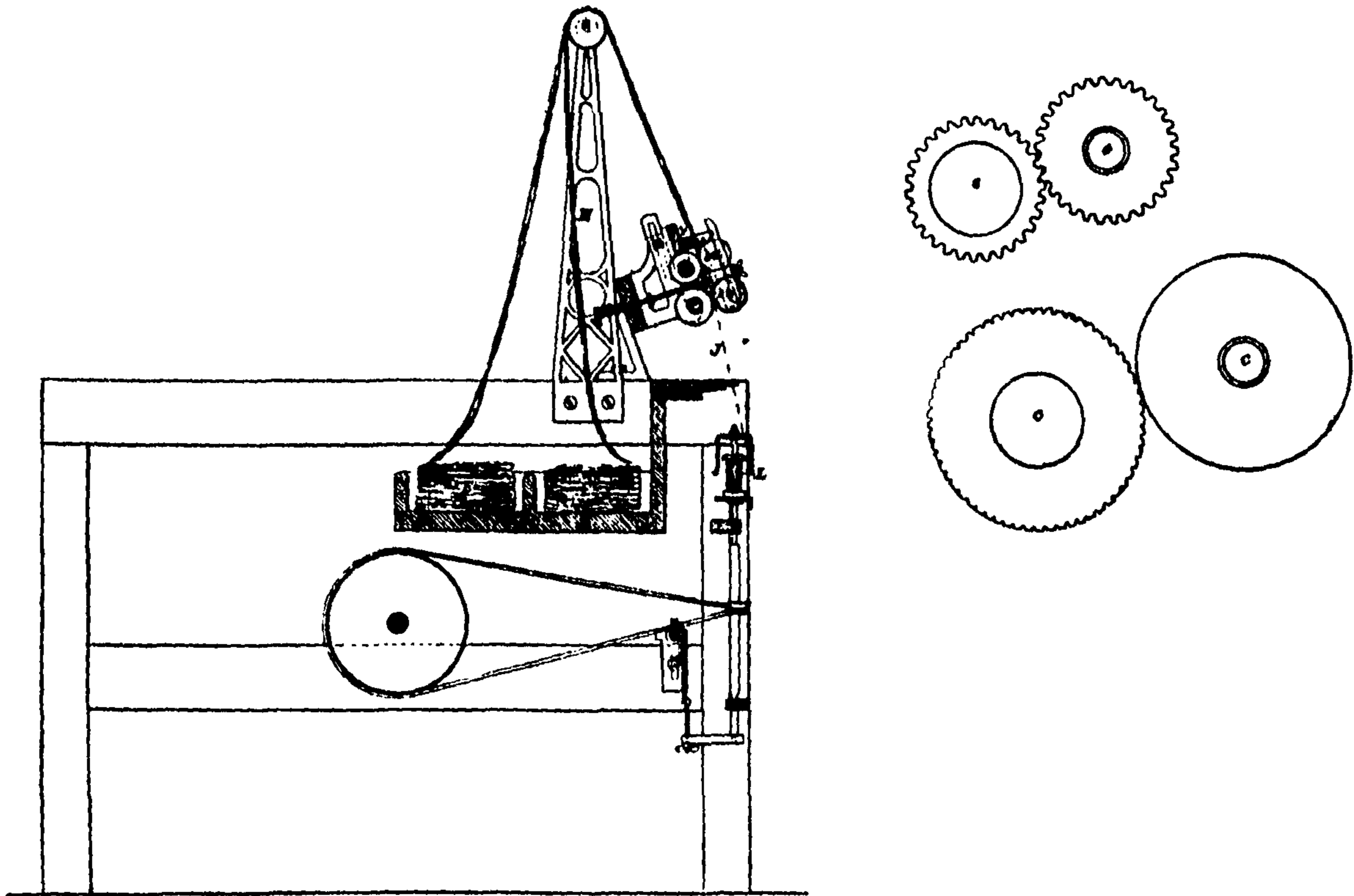


Fig. 3 of Kay's specification (5226 of 1825) with enlarged elevation of drawing-rollers, *c, c*, and retaining-rollers *a, a*.



A bill in Chancery was filed, claiming an injunction against the defendants for using machinery constructed and used according to the specification for spinning wet flax at a short reach as described, and other relief was sought.

The bill recited that the plaintiff discovered that by wetting and maceration and spinning with a short "ratch" or "reach" of  $2\frac{1}{2}$  inches; that by means of further improvements the process of maceration described in the specification could be dispensed with, if the flax were passed through a trough of water before being drawn out and spun; that the plaintiff's invention of machinery for spinning flax by means of placing the drawing rollers as described within a short distance of the retaining rollers was a new invention of great public utility; and that the patent had been held valid in previous actions at law.

The time for demurring having expired, special leave of the Court was obtained to file a general demurrer to the bill. It was argued before the Vice-Chancellor who ordered the demurrer to stand over for twelve months with liberty to bring an action.

On appeal from the above order Lord *Cottenham*, L.C., overruled the demurrer and discharged the order. In the opening of his judgment the following passage occurs (2 Webs. 39; 1 My. & Cr. 383):—

"Upon the face of his bill, he alleges that he did by his specification do all that his patent required him to do, namely, describe and ascertain the nature of his invention, and in what manner the same was to be performed. What follows is merely the claim, not intended to be any description of the means by which the invention is to be performed, but introduced for the security of the patentee, that he may not be supposed to claim more than what he can support as an invention. It is introduced, lest in describing and ascertaining the nature of his invention, and by what means the same is to be performed (particularly in the case of a patent for an improvement), the patentee should have inadvertently described something which is not new, in order to render his description of the improvement intelligible. The claim is not intended to aid the description, but to ascertain the extent of what is claimed as new."<sup>1</sup>

The defendants raised two pleas, alleging that the principle of wet spinning was not new, and that the process of maceration described was unnecessary and useless.

A trial at law was ordered.

The case was tried at the Assizes. Evidence was given of the revolution created in the manufacture by the plaintiff's process, and of the action of his machine and earlier ones.

The jury found a verdict in favour of the plaintiff on both issues. The following statement of facts was endorsed:—

"That before the granting of the patent, hemp, flax, and other fibrous substances were spun by machines with slides by which the reach was varied

<sup>1</sup> This passage is quoted and referred to with approval by *Jessel*, M.R., in *Plimpton v. Malcomson*, 3 Ch. D. 563, and by *Wills*, J., in *Easterbrook v. G. W. Ry. Co.*, 2 R. P. C. 208.

according to the length of the staple or fibre of the article to be spun ; and that has been the fundamental principle of dry spinning known and used before the granting of the patent ; the reach having varied—in cotton spinning between,  $\frac{7}{8}$  inch to  $1\frac{1}{4}$  ; in flax or line spinning, from 14 to 36 inches ; in tow spinning, from 4 to 9 inches ; in worsted spinning, from 5 to 14 inches ; but before the granting of the patent it was not known that flax could be spun by means of maceration, as having a short fibre, at a reach of  $2\frac{1}{2}$  inches or about these limits ; but before that time Horace Hall had taken out a patent for ‘an improved method of preparing and spinning hemp, flax, and other substances containing fibre,’ with a specification referring to it, and the machines manufactured according to that patent were constructed with a reach of  $4\frac{1}{4}$  inches.”

An order was subsequently made by Lord *Langdale*, M.R., that a case be made for the opinion of the judges of the Court of Common Pleas upon the question of the validity of the patent.

It was held by the Court of Common Pleas : that the invention consisted of two parts, viz. new machinery for macerating flax, and “improved machinery for spinning the same ;” that the real subject-matter of the improved machinery was “the placing and retaining of the respective rollers within  $2\frac{1}{2}$  inches from each other ;” that this was merely “the application of a piece of machinery already known and in use to the new macerated state of the flax ;” and that the patent was therefore invalid.

Sir *N. C. Tindal*, C.J., in the conclusion of the judgment of the Court, said (2 Webs. 76) : “The answer given to this objection on the part of the plaintiff has been, that the invention for which the patent has been taken out does not consist of two distinct parts, but has but one entire single object only, namely, the object of macerating and spinning that macerated flax, on a machine where the rollers are retained at the prescribed distance from each other. But this appears to be at variance with the specification itself, which divides the invention and the subject-matter of the patent into two distinct parts ; and even if it is to be considered as one entire invention, if part of what is claimed is not properly the subject of a patent, or not new, the whole must be void.”

The Master of the Rolls concurred with this judgment and dismissed the bill with costs.

The plaintiff appealed to the House of Lords.

The appeal was dismissed.

Lord *Cottenham*, L.C., in delivering judgment, reviewed the facts and the history of the litigation, and continued (p. 81) : “All the variation which the plaintiff introduced into the ordinary spinning machine, which he claims as his invention, is fixing the rollers at  $2\frac{1}{2}$  inches distance from each other ; and that he states is such an improvement to the ordinary spinning machine as entitles him to be protected from the rest of the world against their using spinning machines with the rollers at that distance. It is not, as was argued at the bar, one invention, namely, the macerating of flax and using flax as mace-



rated with a particular machine.”<sup>1</sup> The earlier part of the invention he does not say is infringed, the defendants do not use it ; another mode of maceration has been adopted. “If the patent be good, so far as the spinning machine is concerned, that is to say, if the plaintiff has a right to tell the defendants, and all the rest of the world, that they shall not use the common spinning machine with rollers at  $2\frac{1}{2}$  inches distance, then the existence of the patent deprives the defendant and all the rest of the world of the right of using the ordinary spinning machine in the form in which they had the right to use it before the patent was granted. Now that is not the object of the patent. If he has discovered any means of using the machine which the world had not known before, the benefit of that he has a right to secure to himself by means of a patent ; but if this mode of using the spinning machine was known before (and the endorsement upon the *postea* states that it was known before), then the plaintiff cannot deprive them of having the benefit of that which they enjoyed before.”

### Notes.

*Kay v. Marshall* has been referred to as an illustration of the want of subject-matter by *Fry, L.J.*, in *Edison v. Woodhouse*: “The invention was for the use of a well-known machine in a manner in which it could have previously been used” (4 R. P. C. 92). A similar view was expressed by *Charles, J.*, in *Herrburger v. Squire*, 5 R. P. C. 592.

*Lord Penzance* commented on this decision in *British Dynamite Co. v. Krebs*, and distinguished the two cases. See *post*, p. 277.

1842. CRANE v. PRICE, 4 M. & Gr. 580 ; 12 L. J. C. P. 81 ; 1 Webs. 393.

### *Manufacture—Subject-matter—Combination Process.*

A patent was granted Sept. 28, 1836, to *G. Crane* for “an improvement in the manufacture of iron.”

The specification reviewed the existing methods of the production of iron from ore by means of bituminous coal, and also the advantages of using anthracite or stone coal, when possible, the result being the production of “a quality of iron more nearly resembling iron obtained by the aid of vegetable charcoal. Now, the object of my invention is, the application of such anthracite, or stone coal, combined with a hot-air blast in the smelting or manufacture of iron from iron stone, mine, or ore.” Full directions were given as to the mode of using the anthracite. The claim was in the following terms : “I would have it understood, that I do not claim the using of a hot-air blast separately in the smelting and manufacture of iron as of my invention,

<sup>1</sup> This was the real discovery of the plaintiff which revolutionized the industry. Had it been properly described and claimed as a *method* or *process* of wet spinning by means of maceration and a shortened reach, a valid patent could have been obtained.

when uncombined with the application of anthracite, or stone coal, or culm; nor do I claim the application of anthracite, or stone coal, in the manufacture or smelting of iron, when uncombined with using the hot-air blast. But what I do claim as my invention is, the application of anthracite, or stone coal, or culm, combined with the using of hot-air blast in the smelting and manufacture of iron from iron stone, mine, or ore, as above described."

This was an action on the case for infringement.

The evidence at the trial was to the following effect:—

The hot blast used was *Neilson's* and that the invention lay in using it with anthracite coal.

Previous to *Cram's* invention, many attempts had been made without success to use anthracite in the smelting of iron. *Neilson's* patent had been known for eight years. Seventy patents had been taken out to effect the same object, and all were useless.

The results of the new process were immense. The breaking-weight of a bar of iron was increased in the ratio of 1 to 1·211, and the resistance to bending under a transverse strain from 1 to 1·3. The whole smelting industry in South Wales was revolutionized, iron being obtained equal to the best Swedish charcoal iron.

At the trial a formal verdict was taken, Sir *N. C. Tindal*, C.J., expressing the opinion that it was a question of law at the last: "I have been listening with great attention to it; it must come at last to what is the meaning of the word 'manufacture' under the statute; whether the application of a known mode of working the blast, applying it to all purposes, when applied to a known purpose is a manufacture; and then you come to the other—whether he was the true and first inventor."

The case came on as a special case before *Tindal*, C.J., *Erskine*, *Coltman*, and *Maule*, JJ.

Several issues were raised by the case, the most important being that suggested by *Tindal*, C.J., at the trial.

In delivering the judgment of the Court, *Tindal*, C.J., reviewed the issues, the specification, the claim with its disclaimers, and continued: "And the question, therefore, becomes this—whether, admitting the using of the hot-air blast to have been known before in the manufacture of bituminous coal, and the use of anthracite, or stone coal, to have been known before in the manufacture of iron with the cold blast, but that the combination of the two together (the hot blast and the anthracite) were not known to be combined before in the manufacture of iron, whether such combination can be the subject of a patent."

"We<sup>1</sup> are of opinion that if the result produced by such a combination is either a new article, or a better article, or a cheaper article to the public,

<sup>1</sup> The passage quoted in this paragraph has been frequently (and is the only one) quoted by learned judges in subsequent judgments. See *Murray v. Clayton*, L. R. 7 Ch. Ap. 584; *Lyon v. Goddard*, 10 R. P. C. 346; *Lister v. Norton*, 3 R. P. C. 205; *Morgan v. Windover*, 4 R. P. C. 425.



than that produced before by the old method, that such combination is an invention or manufacture intended by the statute, and may well become the subject of a patent." The learned judge supported this view by quotations from *R. v. Wheeler*, 2 B. & Ald. 349 (*ante*, p. 186), and *Hill v. Thompson*, 1 Webs. 237 (*ante*, p. 184).

He reviewed the facts of previous cases, and the evidence taken at the trial.

He continued: "It was objected, in the course of the argument, that the quality or degree of invention was so small, that it could not become the subject-matter of a patent; that a person who could procure a license to use the hot-air blast under Neilson's patent, had a full right to apply that blast to coal of any nature whatever, whether bituminous or stone coal. But we think if it were necessary to consider the labour, pains, and expense, incurred by the plaintiff, in bringing his discovery to perfection, that there is evidence in this cause that the expense was considerable, and the experiments numerous. But in point of law, the labour of thought, or experiments, and the expenditure of money, are not the essential grounds of consideration on which the question, whether the invention is or is not the subject-matter of a patent, ought to depend. For if the invention be new and useful to the public, it is not material whether it be the result of long experiments and profound research, or whether by some sudden and lucky thought or mere accidental discovery.

"The Case of Monopolies states the law to be, that where a man, by his own charge or industry, or by his own wit and invention, brings a new trade into the realm, or any engine tending to the furtherance of a trade that never was used before, and that was for the good of the realm, that the King may grant him the monopoly of a patent for a reasonable time. If the combination now under consideration be, as we think it is, a manufacture within the statute of James, there was abundant evidence in the cause, that it had been a great object and desideratum, before the granting of the patent, to smelt iron stone by means of anthracite coal, and that it had never been done before; there was no evidence on the part of the defendants to meet that which the plaintiff brought forward. These considerations, therefore, enable us to direct that the verdict ought to be entered for the plaintiff on the third issue; that it was a new manufacture—new as to the public use and exercise thereof within England and Wales."<sup>1</sup>

It was also decided that the use of *Neilson's* hot blast, although the subject of a patent still running, could form part of a process or combination the subject of another patent.

### Notes.

The main issue decided in this case was that the process described by *Crane* was a "manufacture," and that a "manufacture" may be new although

<sup>1</sup> The passage here quoted gives the real ground of the decision. The test of the *minimum* amount of ingenuity necessary to support a patent was never discussed at all.

the several processes then combined for the first time may be severally old.

Several *dicta* will be found in the reports of subsequent cases to the effect that *Crane v. Price* is of doubtful authority at the present day. A close examination, however, reveals the fact that such *dicta* occur chiefly in cases in which *Crane v. Price* has been relied on in argument in support of the proposition that, if the conditions mentioned in the paragraph above noted (*ante*, p. 196) be fulfilled, the invention is patentable, ignoring the facts proved in the case showing the failure of preceding inventors who laboured at the same problem. This occurred in the following cases. In *Morgan v. Windover*, 4 R. P. C. 425,<sup>1</sup> it was followed by *Kekewich*, J. (whose decision was subsequently reversed); in *Lister v. Norton*, 3 R. P. C. 205, it was similarly quoted by *Chitty*, J.; in *Rushton v. Crawley*, 10 L. R. Eq. 524, it was so referred to and subsequently doubted by *Malins*, V.C. (at p. 529); in *Blakey v. Latham*, 6 R. P. C. 187; and in *Rickmann v. Thierry*, 12 R. P. C. 548 and 14 R. P. C. 114.<sup>2</sup> In none of these cases was there such evidence of invention from the workman's point of view as was given in *Crane v. Price*.

The presence of "invention" in *Crane's* process has been recognized by Lord (then Mr. Justice) *Blackburn* in *Harwood v. G. N. Ry. Co.*, 11 H. L. Ca. 667,<sup>3</sup> and subsequently in *Clark v. Adie*, 2 App. Ca. 335. In the cases in which *Crane v. Price* has been approved and followed there were facts showing invention from the workman's point of view:—*Murray v. Clayton*, L. R. 7 Ch. Ap. 584;<sup>4</sup> *Lyon v. Goddard*, 10 R. P. C. 346.<sup>5</sup>

If the presence of sufficient ingenuity to support a patent be tested (as is submitted is the proper course, *ante*, p. 35) from the workman's point of view by comparing the state of the art before and after the disclosure of the invention in question, then the evidence of "invention" in *Crane v. Price* is abundant; but if it be allowed to test the necessary amount of ingenuity by an *ex post facto* examination of the problem, then the amount of ingenuity so tested appears at first sight not to be such as would support a patent at the present day. But, in applying this mental process, it is frequently forgotten that, owing to scientific discoveries and generalizations—the mechanical equivalent of heat, the conservation of energy, the interdependence of physical, chemical, and electrical phenomena—minds at the present time are better trained and more ready to perceive analogies and devise new methods than they were in 1842. It is dangerous in applying the *ex post facto* process to rely on early cases.

*Crane's* invention has been sometimes described as a "combination" (*Morgan v. Windover*, 4 R. P. C. 425), but not without doubt (per *James*, L.J., in *Murray v. Clayton*, L. R. 7 Ch. Ap. 584). It appears to be the invention of a process for smelting iron in which an old invention, *Neilson's*

<sup>1</sup> For facts, see *post*, p. 323.

<sup>2</sup> For facts, see *post*, p. 391.

<sup>3</sup> For facts, see *post*, pp. 204, 207.

<sup>4</sup> For facts, see *post*, p. 249.

<sup>5</sup> For facts, see *post*, p. 358.



blast, was used with anthracite coal, the result being substantially a new process resulting in an improved kind of iron. In *Vickers v. Siddell*, 7 R. P. C. 302, Lord *Halsbury*, L.C., remarked that the judges in *Crane v. Price* seemed to have confused a patent for a process with a principle.

1851. ELECTRIC TELEGRAPH CO. v. BRETT & LITTLE, 10 C. B. 838.

*Construction of Specification—Essence of the Invention.*

The specification was that which described the *Cooke & Wheatstone* telegraph dated Dec. 12, 1837.

The title was "Improvements in giving signals and sounding alarms in distant places by means of electric currents transmitted through metallic circuits." The specification described the invention fully with diagrams. Throughout metallic circuits were mentioned, earth-returns being then unknown. The action of a magnetic needle in the centre of a coil of conducting wire was known, and also that it could be operated from a distant battery. The novelty lay in the arrangement and use of two or more needles worked through two or more circuits, to produce different signals by combinations. The needles oscillated between stops in vertical planes, and were weighted to ensure stability.

There were several claims. The first included the placing of the needles on horizontal axes, weighting them at one end, and limiting the oscillations by stops. The second was for the improvement in placing several needles on the same dial so as to give signals by combinations. The third included the combinations of wires, sending-buttons, and receiving-dials. The fourth was for the arrangements of sending-keys. The fifth included duplicate stations on the line. The sixth and seventh were for details as to the employment of temporary magnetism to influence the needles. The eighth and ninth related to the employment of local or relay batteries.

Throughout the whole specification and in the claims the conductors were spoken of in the plural. Reference was made in the claims to communicating angular motions to vertical needles "by means of electric currents transmitted through metallic circuits."

It was subsequently discovered that an earth-return could be used, and thereby only *one* metallic conductor in each circuit was required.

It was held that the claims were for certain *improvements*, and that the use of a *complete* metallic circuit was no part of the improvements; hence the claims included cases in which only a single conductor and earth-returns were used, although the possibility of earth-returns was unknown at the date of the patent.

### Notes.

This case was regarded as an authority in the *Lane Fox* case (*post*, p. 345). The specification of Mr. *Lane Fox* described a system of distribution of electricity for glow-lamps. In such a system it is material to supply the

current at a constant pressure; so far as the lamps were concerned it was immaterial whether a return conductor was used or the earth. Throughout the specification the "earth" was spoken of. *Held*, on the authority of the above case, that an earth-return was not claimed as essential to the system of distribution. *Lane Fox v. Kensington, &c.*, 9 R. P. C. 242. The decision in *El. Tel. Co. v. Brett* did not turn on the allegation that the earth-return was an "equivalent" for the metallic, but that the metallic return, not being an *essential*, was not necessarily included in the claim.

1855. HEATH v. UNWIN, 5 H. L. Ca. 505.

*Construction—Chemical Equivalents.*

In 1839 a patent was granted to *J. M. Heath* for "certain improvements in the manufacture of iron and steel." The nature of these inventions was: (1) extraction of pure cast iron and formation of slag, (2) forming cast steel from the cast iron by fusing with malleable iron and certain oxides, (3) the use of oxide of manganese in puddling, and (4) "the use of carburet of manganese in any process whereby iron is converted into cast steel." The several processes were described in detail, including the use of oxide of manganese in the puddling furnace, and, "lastly, I propose to make an improved quality of cast steel, by introducing into a crucible bars of common blistered steel, broken as usual into fragments, or mixtures of cast and malleable iron and carbonaceous matters, along with from one to three per cent, of their weight of carburet of manganese, and exposing the crucible to the proper heat for melting the materials, which are, when fluid, to be poured into an ingot mould in the usual manner; but I do not claim the use of any such mixture of cast and malleable iron, or malleable iron and carbonaceous matter, as any part of my invention, but only the use of carburet of manganese in any process for the conversion of iron into steel, I claim . . . and, fourth, the employment of carburet of manganese in preparing an improved cast steel."

Carburet of manganese was a substance manufactured by heating at a high temperature oxide of manganese and carbon.

It was subsequently discovered, but not known at the date of the specification, that if black oxide of manganese and coal tar were made into a paste in suitable proportions and introduced into the furnace, the result would be the same as the direct use of carburet of manganese. There was no direct evidence that carburet of manganese was actually formed in the melting process, but such was the opinion of experts.

The opinion of the judges was called for by the House of Lords.

*Parke, B.* (p. 538): "The specification must be read as persons acquainted with the subject would read it *at the time* it was made; and if it could be construed as containing any chemical equivalents, it must be such as are known to such persons at that time; but those which are not known at the time as



equivalents, and afterwards are found to answer the same purpose, are not included in the specification; they are new inventions." <sup>1</sup>

*Held*, by the House of Lords (reversing the Court below): That the specification claimed only the use of the carburet of manganese, and did not include the use of the coal tar and oxide paste. <sup>2</sup>

### Notes.

This decision was one in a case where the patent was for a new process (use of carburet of manganese) for attaining an old result (formation of steel); there is no analogy between it and a case where the chemical combination is part of a larger novel combination. *Incandescent Gas Co. v. De Marc, &c.*, 13 R. P. C. 332.

1858. NEWALL v. ELLIOTT, 4 C. B. N. S. 269; 27 L. J. C. P. 337.

#### *Prior User and Publication—Disconformity.*

In 1855 a patent (No. 1091) was granted to *R. S. Newall* for "improvements in apparatus employed in laying down submarine electric telegraph wires." The provisional specification was in the following terms:—

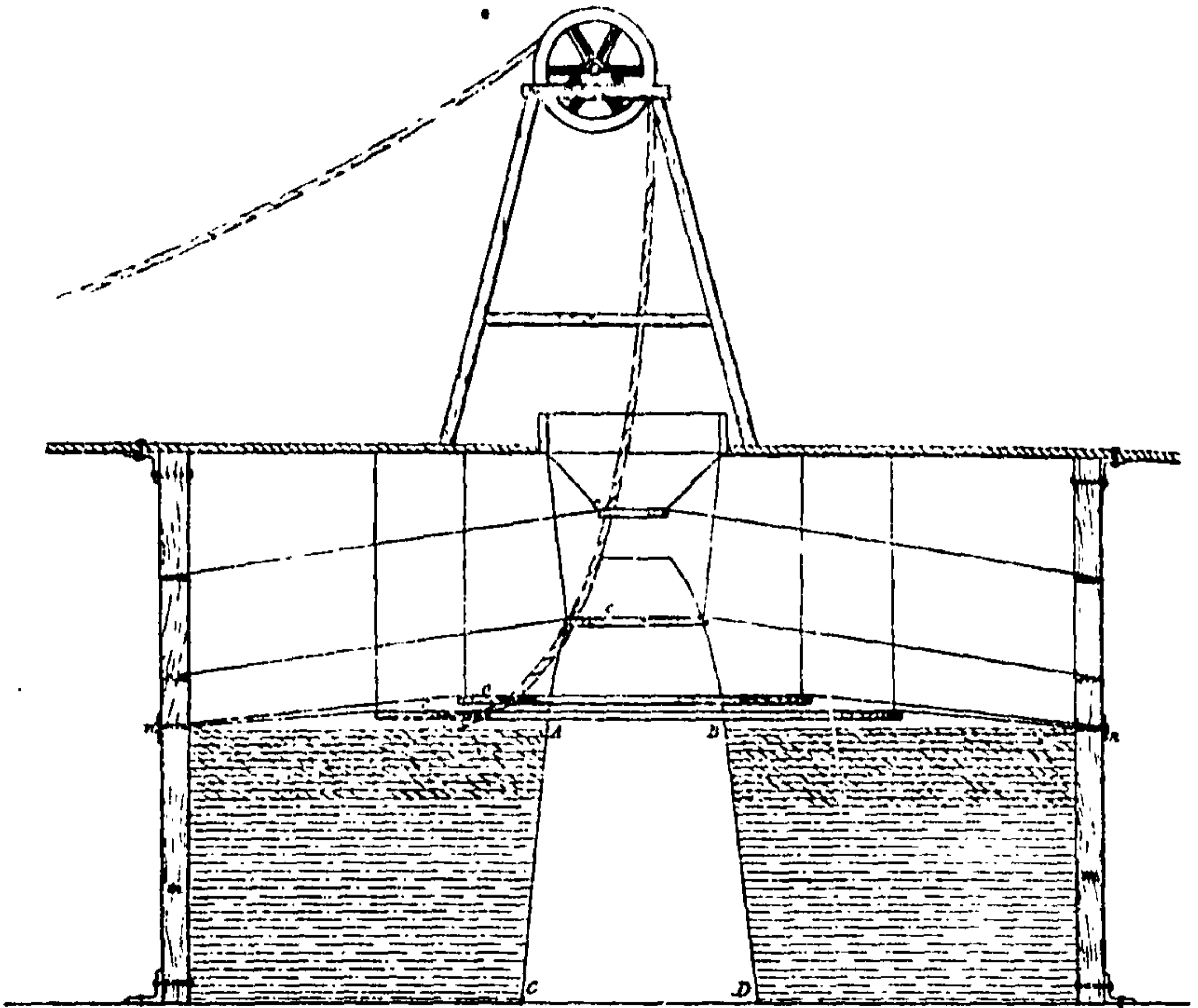
"This invention consists of apparatus combined and acting in the following manner: The cable or rope containing the insulated wire or wires is passed round a cone, or, if it is a long cable, round several cones, so that the cable in being drawn off the coil is prevented from kinking by means of the cone, and there is a cylinder on the outside which prevents the coil from shifting in its place. The cable passes over a pulley above the cone and on to a brake-wheel, round which it takes several turns to obtain sufficient holding, and from the brake-wheel it passes over the stern of the vessel on board which the cable or rope is placed; or I use two or more brake-wheels, the one behind the other; the cable or rope comes up from the hold of the vessel and round the first brake-wheel several times, then on to the second brake-wheel, round which it also takes several turns. When the brake is applied to the first wheel it increases the friction on the second, and so on, according to the number of brake-wheels used; or I use two brake-wheels, coupled together either by spur gear or cranks and connecting-rods; the cable in such case passes round only a part of the circumference of each. There are grooves in the wheels, which guide the cable or rope from one to the other, and prevent its getting foul; or a guide is used to push the cable from one side of the wheel to the other, so as always to keep one part from riding over another."

The complete specification began by a repetition of the provisional, and then continued:—

<sup>1</sup> Quoted as authority in *Badische Anilin, &c. v. Levinstein*, 24 Ch. D. 170; 2 R. P. C. 90.

<sup>2</sup> The decision turned in a great measure on the construction of the specification, inasmuch as the precise proportions of carburet and iron to be introduced were given.

“The greatest difficulty in laying down submarine telegraph wires or cables hitherto has been the limit to speed in paying them out, arising from the necessity of the leading off part of the coil being kept clear of the others, by a great number of men handling it to prevent its getting into kinks or becoming entangled one part with another. This is remedied by coiling the wire or cable round a cone (or several cones if required), so that the wire in being drawn off the coil is prevented from kinking by means of the cone. The apparatus I employ is shown in the accompanying drawings,<sup>1</sup> which represent a section and plan. A, B, C, D



Part of drawing of Newall's specification (1091 of 1855).

is the cone ; it is formed of wood, or it may be of iron, so as to present an even surface on the outside, so that the wire in passing round it may not be caught by any projection. This cone is firmly fastened to the bottom of the vessel, and reaches at least as high as the top of the coil. Around the cone is formed a cylinder or series of uprights *m*, strongly fastened to the bottom and deck, so as to prevent the coil of wire or cable which is coiled around the cone from shifting in its place. A strong iron ring or

<sup>1</sup> For the present purpose it is only necessary to show the elevation in part. The original showed brake-wheels on the left. The error in the drawing showing a ring too close on the cone was introduced into the 2nd edition of the specification published by the Patent Office.



hoop is fastened outside the supports to brace them together at *n*. Over the cone is placed a pulley, one side of it being in a line with the axis of the cone."

The position, strength, and proportions of the brake-wheels were next described, and then the coiling of the cable, as follows:—

"The cable is carefully coiled round the cone in horizontal layers, beginning from the outside next the cylinder and coiling towards the cone. When the space is filled up, the bight of the rope is taken to the outside of the coil at *b*, and another layer is coiled, and so on, until the whole length is coiled round the cone.

"When the wire or cable is to be laid down, I place over the cone an apex or top, which is conoidal, as shown in the drawing, or conical, and around this I suspend several rings of iron or other metal by means of cords, so as to admit of adjustment at various heights over the cone, as at *c*. The use of these rings is to prevent the bight of the rope from flying out when going at a rapid speed, and the combination of these parts of the apparatus prevents the wire or cable from running into kinks. The two rings nearest the coil are lowered, so as to be about six inches and a foot respectively above the coil as it is being paid out."

Directions were next given for leading the cable through the rings over the pulley and round the brake-wheels. The action of the latter when the cable was paid out was described.

The claims were:—

"First, coiling the wire or cable round a cone.

"Second, the supports placed cylindrically outside the coil round the cone.

"Third, the use of rings in combination with the cone, as described."

Before the date of the patent solid cores had been used in the process of manufacture and for keeping the cables in position during transit, but not when being paid out. Before being laid cables were coiled in circular tanks for testing purposes. When being laid, successive layers were tied together in coils in the hold. As the cable was running out men were employed to cut these fastenings and handle the cable to prevent kinks.

It was found necessary to have an experimental test made at sea, and laying the cable in deep water, before it could be regarded as a successful invention. In fulfilment of a contract with the Government (to be carried out under the supervision of a naval officer, and to be certified by an engineer), the plaintiffs stowed the cable in the manner described in the specification on board the *Black Sea*. Having to return through stress of weather, the cable was shipped from the *Black Sea* to the *Argus* in the Thames, and similarly coiled on board the latter vessel. In spite of precautions for secrecy, persons other than *employés* had opportunities of seeing the invention. No use, however, was made of such knowledge.

The apparatus was used in laying a cable in pursuance of the contract in the Black Sea, and subsequently the patent was applied for.

At the trial, amongst other objections to the validity of the patent, those

of prior user for profit, and disconformity between the provisional and complete specifications were raised.

*Held*: 'That the prior user being experimental, although incidentally for profit, did not invalidate the patent ;<sup>1</sup> and that the claim for the use of the rings came within the invention as shown in the provisional specification.

Per *Byles*, J., in delivering the judgment of the Court : " But the office of the provisional specification is only to describe generally and fairly the *nature* of the invention, and not to enter into all the minute details as to the manner in which the invention is to be carried out : otherwise the provisional specification must be as full as the complete specification, and drawn with as much care and deliberation."<sup>2</sup>

### Notes.

The facts in this case were referred to in deciding a question of anticipation in *Winby v. Manchester, &c., Street Tram. Co.*, 6 R. P. C. 364. The question of publication in such a case as this is a " question of fact to be reasonably considered with reference to all the circumstances and the reasonable conduct of prudent men : " *Gadd v. Mayor of Manchester*, 9 R. P. C. 258. The experiment of laying the cable was made to ascertain if the invention was useful and would work ; it was not a mere question of seeing that the machine was in working order (per *Lindley*, M.R., in *Hoe v. Foster*, 16 R. P. C. 39) ; though authorities on questions of this kind of facts are of great assistance, yet each case must be determined on its own facts : per *Chitty*, L.J., in *Hoe v. Foster*, 16 R. P. C. 40.

This decision as to disconformity and the function of the provisional specification has been followed in many cases, e.g. *Penn v. Bibby*, L. R. 2 Ch. Ap. 133, and the dictum of *Byles*, J., has been quoted as authority in *United Telephone Co. v. Harrison*, 21 Ch. D. 745 ; *Lucas v. Miller*, 2 R. P. C. 159 ; *Moseley v. Victoria Rubber Co.*, 4 R. P. C. 248. The way to test disconformity is to read the complete specification first, and then to see if the provisional covers the same ground ; this case being an instance of such method : *Siddell v. Vickers*, 5 R. P. C. 98. The rings were an adjunct, and not a separate invention, which distinguishes this case from that of *Nuttall v. Hargreaves*, 8 R. P. C. 456 (per *Bowen*, L.J.).

1865. HARWOOD v. G. N. RAILWAY CO., 11 H. L. Ca. 654 ; 31 L. J. Q. B. 198 ; 29 L. J. Q. B. 193.

### *Inventive Ingenuity—Analagous Use.*

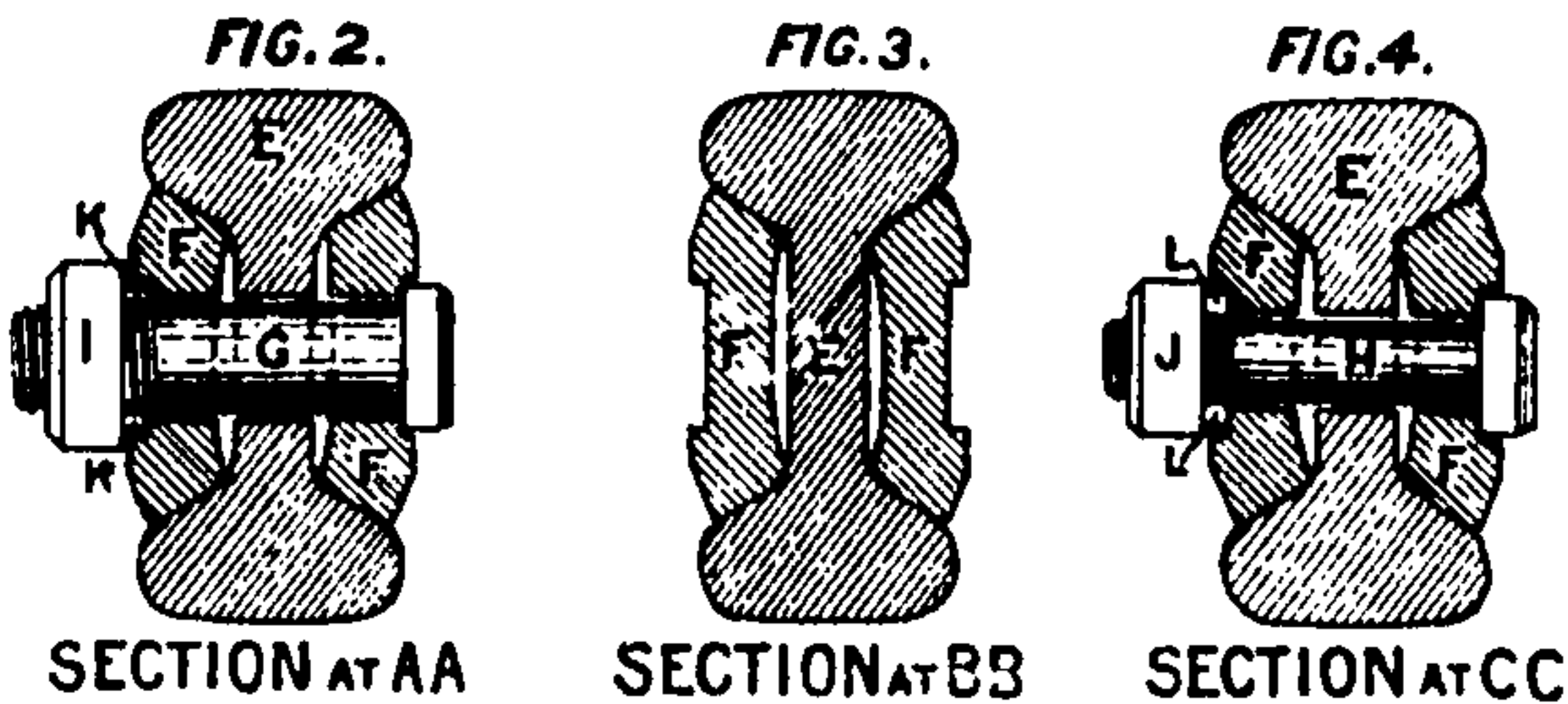
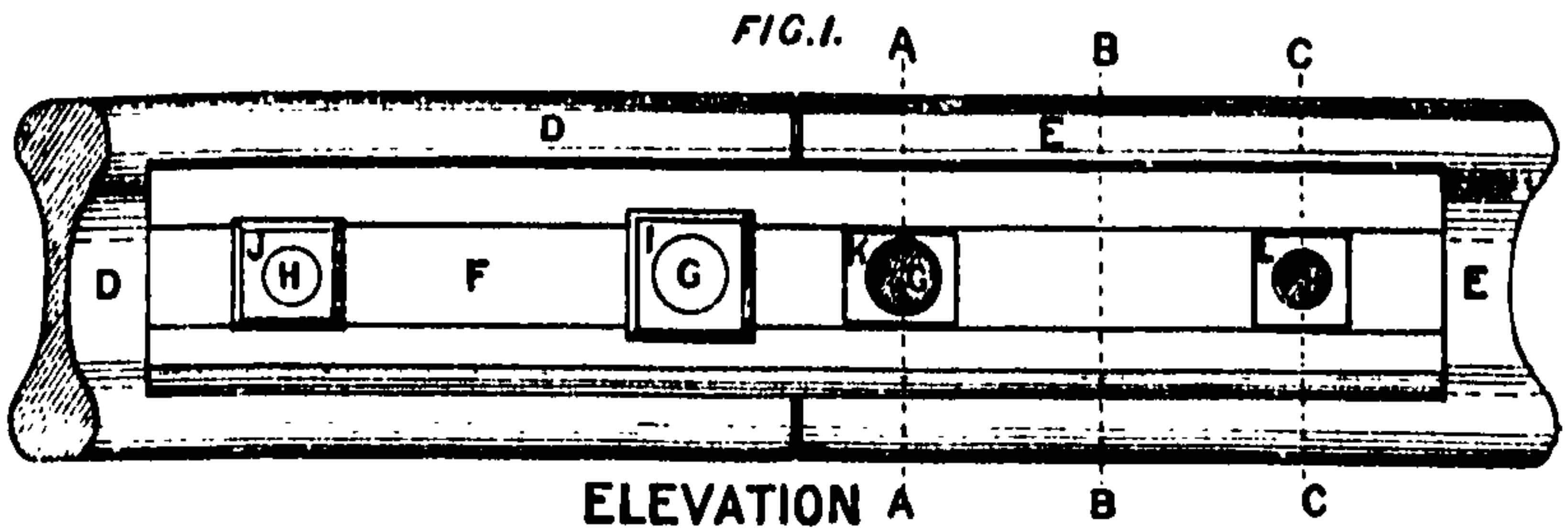
In 1853 a patent (No. 651 of 1853) was granted to *C. H. Wild* for " improvements in fishes and fish-joints for connecting the rails of railways."

<sup>1</sup> The point was not taken that the alleged publication and user in the Black Sea was not within the United Kingdom. In another case between the same parties the point was suggested by Baron *Bramwell* with respect to an infringement at Malta. 10 Jurist, N.S., 958.

<sup>2</sup> 4 C. B. N. S. 293 ; 27 L. J. C. P. 341.



The specification described the fish-plates and chairs in detail.<sup>1</sup> Fig. 1 is the elevation of the fish-plate joint. D, E are the rails, F, F' the fishes, G and H the bolts, J, I and J the nuts, and K and L washers placed between the rails and the nuts. Figs. 2, 3, and 4 show sections of the joint at AA, BB, and CC respectively; the same letters are used for same parts. The bolts have square heads, and are thereby prevented from turning (when the nuts are being screwed on or off) by the grooves, into which they fit. The washers are used to keep the nuts out of the groove so that they may be screwed round, or "the fish on this side may be made without the groove." If



Diagrams redrawn from Wild's specification (No. 651 of 1853).

preferred, the nuts may be fitted into the grooves and the bolt-heads kept out by washers or an ungrooved fish used on that side. "The groove renders the fish lighter for equal strength, or stronger for an equal weight of metal, than a fish which is made of equal thickness throughout." The tops and bottoms of the fishes are shaped to fit the rails, as shown in diagrams. The central bolts were stronger than the outer to resist greater strain. The grooved fishes were made of wrought-iron by rolling, as wrought-iron railway and other bars are made.

The claims were :—

"Firstly, the constructing fishes for connecting the rails of railways with a groove adapted for receiving the heads of the bolts or rivets employed for

<sup>1</sup> Only those parts are alluded to which are necessary to understand the case. The sketches of diagrams here given were taken from the Appendix to the case in the House of Lords through the courtesy of Mr. Hill Dawe, solicitor to G. N. Ry. Co.

securing such fishes, and the application of such fishes for connecting the rails of railways in manner hereinbefore described."

The second, third, and fourth claims applied to joints for split rails, the strengthening of the fish by centre-bolts, and certain supports for rails.

It was proved at the trial that fish-joints were old. Flat fishes with round-headed bolts and cup-shaped nuts were well known. In some cases the holes were of square section to correspond with bolts made with square necks; in others there was a square recess about a quarter of an inch in depth made to hold the square head of the bolt.<sup>1</sup> But there were none made grooved along the whole length to hold the bolt and lighten the fish.

Bridges had been constructed in which horizontal beams of timber one above the other were secured by being bolted through, horizontal bars of iron being placed underneath and grooved or channelled iron to receive the square heads of bolts; but there was no corresponding bar on the other side and no fishing. The channels were formed to give increased strength.

In 1847, on a bridge on the South Devon Railway over the Teign Canal (called the "Hackney Bridge"), there was a scarf joint of longitudinal beams of timber. Underneath the beams there were cross-beams to form the floor of the bridge. These cross-beams were secured by means of longitudinal bars of iron, one on each side of the bridge, running underneath (parallel to the upper beams) the whole length of the bridge, with channels downwards. Bolts with square heads passed through the channelled iron bars, the transverse planking, and the longitudinal beams. The square heads of the bolts were prevented from turning by the channel, and the bolts were secured by nuts on the upper beam. At and over the scarf joint, and a few feet on each side thereof, was an iron plate, through which the bolts passed at that part of the bridge. The iron bars were constructed to, and did, prevent the bolts from turning, and give increased strength for the same weight of metal as solid ones.

The jury found at the trial:—

First, that channel-iron upon railway bridges had been used for the double purpose of obtaining increased strength and preventing the bolt-heads from turning, but were not used for fishing.

Secondly, that the fastening of the joint at the "Hackney Bridge" was a fishing of that joint; that the channel-iron was already there for another purpose, and not adopted by Mr. *Brunel* (the architect of the bridge) in contemplation of the special advantages of fishing, as in *Wild's* patent.<sup>2</sup>

At the trial the verdict was for the plaintiff, but leave was reserved to apply to the Queen's Bench for a new trial. The new trial was refused by the Court (29 L. J. Q. B. 193).

<sup>1</sup> The alleged invention was simply cutting or grooving from one of these recesses to the rest.

<sup>2</sup> *Willes*, J., in delivering the judgment of the Court of Exchequer Chamber, said that the first anticipation was sufficient, but Lord *Westbury*, L.C., in the House of Lords on appeal in this case, and *Lindley*, L.J., in *Deutsche Nahmaschinen Fabrik v. Pfaff*, 7 R. P. C. 258, said that the alleged invention was only applying the fish for a bridge to a rail-joint.



On appeal to the Exchequer Chamber it was *held* that the patent was invalid, the invention having been already given to the world in the first of the above anticipations (31 L. J. Q. B. 198).

Per *Willes*, J. (in delivering the judgment of the Court): "In our opinion, quite independent of the use at that bridge, the use of grooves in pieces of iron for holding materials together by means of bolts and nuts had been given to the world together with all its advantages before the date of the patent, and the alleged invention was a mere application of that old contrivance in the old way to an analogous subject without any novelty or invention in the mode of applying such old contrivance to the new purpose, and an application such as this does not make a valid subject-matter of a patent"<sup>1</sup> (31 L. J. Q. B.).

An appeal was taken to the House of Lords.

The opinions of the judges were asked for.

Mr. Justice *Blackburn* (p. 666) delivered the joint opinion of Mr. Justice *Shee* and himself to the following effect. They agreed with the Court of Exchequer Chamber "that a *mere* application of an old contrivance in the old way to an analogous subject *without any novelty or invention* in the mode" of application is not subject-matter, but that there are two questions of fact involved. (1) Is there any *invention* in the new contrivance as compared with the old, and (2) whether there is any *invention* in the new application. "It always must be a question of degree—a question of more or less—whether the analogy or cognateness of the purposes is so close as to prevent their being invention in the application."<sup>2</sup> Following *Cranv. v. Price* (*ante*, p. 195),<sup>3</sup> they were of opinion that in this case there was invention, as the strain on the "fish" was in its plane, *i.e.* vertical, and consequently the centre of the plates could be grooved without affecting the resisting power of the "fish," and that the invention lay in the grooving, and so economizing material; the channelled iron in the anticipations being shaped to resist strain in a plane perpendicular to that of the irons themselves instead of in the same plane.

Mr. Baron *Channell* delivered the opinion of Justices *Keatinge*, *Pigott*, and himself. They adopted the rule of law as laid down by the Exchequer Chamber (*supra*), and held on the facts that the application of the plates to "fishes" involved no invention, and that the invention as suggested by the two other judges was never claimed by the patentee, seeing that grooving was said to be unnecessary for the inside fish.

Lord *Westbury*, L.C. (p. 681), followed the latter opinion, holding that the patent was "limited entirely to the introduction and use of fishes of a particular shape and configuration." (P. 682) "No sounder or more wholesome doctrine was ever established than . . . that you cannot have

<sup>1</sup> This is the real rule adopted by the House of Lords: *Pirrie v. York St. Flax Spinning Co.*, 11 R. P. C. 436, 444, 456; *Riekmann v. Thierry*, 14 R. P. C. 121; *Brooks v. Lamplugh*, 15 R. P. C. 48.

<sup>2</sup> Quoted in *Case v. Cressy*, 17 R. P. C. 261.

<sup>3</sup> See notes, *ante*, pp. 197, 198.

a patent for a well-known mechanical contrivance *merely* when it is applied in a manner or to a purpose which is not quite the same, but is analogous to the manner or the purpose in or to which it has been hitherto notoriously used." <sup>1</sup>

Lords *Cranworth* and *Wensleydale* based their judgments on the first anticipation, and all approved of the rule laid down by the judges in the Exchequer Chamber.

### Notes.

The principle of the foregoing case is undisputed: "the application of it is a matter for the Court in each case" (per *Bowen*, L.J., in *Cropper v. Smith*, 1 R. P. C. 90). The facts of it were discussed and compared with those under discussion respectively in *Jordan v. Moore*, L. R. 1 C. P. 635; *White v. Toms*, L. J. 37 Ch. 207; *Lister v. Norton*, 3 R. P. C. 205; *Williams v. Nye*, 7 R. P. C. 68; *Wenham Gas Co. v. The Champion, &c.* (the amount of invention compared with *Harwood v. G. N. Ry.*), 9 R. P. C. 54; *Lane & Fox v. Kensington, &c.*, 9 R. P. C. 416.

In *British Dynamite Co. v. Krebs*, 13 R. P. C. 199, Lord *Penzance* distinguished that case from *Harwood v. G. N. Ry.* on the ground that the old igniter was applied to the new material dynamite, whereas in the case of *Harwood v. G. N. Ry.* the object was old as well as the material. In *Morgan v. Windover*, 4 R. P. C. 426, *Kekewich*, J., considered that the amount of ingenuity displayed in that case was greater than that in *Harwood v. G. N. Ry.*, and upheld the patent, his decision being subsequently reversed. See *post*, p. 323.

1860. HILLS v. LONDON GAS LIGHT CO., 5 H. & N. 312.

### *Construction of Specification—Invention by Selection.*

The plaintiff was patentee of "an improved mode of manufacturing gas" (No. 1286—1849).

The specification <sup>2</sup> described methods of purifying gas from sulphuretted hydrogen, cyanogen, and ammonia, by passing the gas through certain porous materials which could be used over again. The patentee effected this by taking "the subsulphates, the oxychlorides, or the hydrated or precipitated oxides of iron (which I prefer to use in a rather damp state), either by themselves or mixed with sulphate of lime or sulphate or muriate of magnesia, baryta, strontia, potash, or soda, and absorb them into or mix

<sup>1</sup> This passage has been frequently quoted as authoritative: *Morgan v. Windover*, 7 R. P. C. 136; *Thomson v. American Braided Wire Co.* (per Lord *Watson*), 6 R. P. C. 525; *Williams v. Nye* (per *Cotton*, L.J.), 7 R. P. C. 68; *Elias v. Grovesend Tin Plate Co.*, 7 R. P. C. 468; *Moser v. Marsden*, 10 R. P. C. 214; *Thierry v. Riekmann*, 12 R. P. C. 426; *Ibid.* (per Lord *Davey*), 14 R. P. C. 121; *Case v. Cressy*, 17 R. P. C. 261.

<sup>2</sup> It is here given summarized as amended.



them with sawdust or peat charcoal in coarse powder, or breeze or other porous or absorbent material, so as to make a very porous substance easily permeable by gas." The gas on passing through it was described as being deprived of sulphuretted hydrogen, cyanogen, and a part of its ammonia, "water being at the same time formed by the union of the oxygen of the oxide and the hydrogen of the sulphuretted hydrogen absorbed."<sup>1</sup> As soon as the material ceased to purify from sulphuretted hydrogen, the gas was to be shut off from the purifier and "a communication is to be opened to the external air which is to be admitted to the purifying material, and by the agency of which it will be renovated, and the uncombined gases which have been absorbed will be driven off." The best means of effecting this was given. "The air will at the same time reoxidise the iron of the sulphuret of iron which has been formed, and the sulphur will be precipitated, and a small but variable quantity of sulphuric acid will be formed."<sup>2</sup> Other details and modifications were mentioned, such as removing the ammonia first by scrubbers. "Hydrated or precipitated oxides of iron may be conveniently prepared for these purposes by decomposing sulphate or muriate of iron with hydrosulphuret of ammonia, or with lime, magnesia, potash, or soda; they may then be absorbed, &c." The mechanical contrivances to supply water or ammoniacal liquor were next described.

The claims were:—

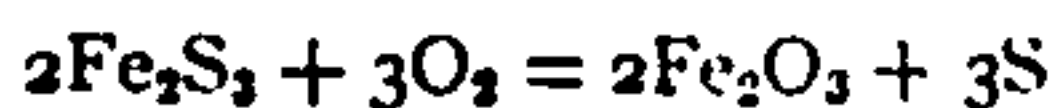
"Firstly, the purifying coal-gas from sulphuretted hydrogen, cyanogen, and more or less perfectly from ammonia, by passing it through the precipitated or hydrated oxides of iron, or the subsulphates or oxychlorides of iron, from whatever source obtained, either by themselves, or, which is much better, made into a more porous material by being absorbed into or mixed with sawdust or breeze or peat-charcoal in coarse powder, or other porous or absorbent material, so as to be readily permeable by the gas, and either used alone or mixed with sulphate of lime or sulphate or muriate of magnesia, potash, or soda, or in conjunction with any other purifying material at present in use for a similar purpose. But I do not claim peroxide of iron or manganese made at a red heat, or the oxide of iron mixed with chloride of calcium, or with the muriates and sulphates of manganese, iron, and zinc, and absorbed into sawdust, etc."<sup>3</sup>

"Secondly, repeatedly renovating or reoxidizing the said purifying materials by the action of the air whenever they from time to time cease to absorb sulphuretted hydrogen, so that they may be used over and over again to purify the gas."

<sup>1</sup> This case turned on the process for removing the hydrogen sulphide. In modern notation the process substantially consists of the combination of hydrated ferric oxide with hydrogen sulphide—



<sup>2</sup> The renovation of the material used is substantially—



<sup>3</sup> This disclaimer covered what *Croll* and *Laming* had shown.

A third claim was for the means of supplying the purifying liquid to the scrubbers or purifiers at intervals.

At the trial, in addition to other evidence of alleged anticipations, two specifications were relied on.

*Croll's* (No. 8577 of 1840) described improvements in the manufacture of gas. He described purifying coal-gas from ammonia, and continued: "The third part of my improvements in the manufacture of coal-gas consists in the application of the black oxide of manganese to remove or free coal-gas of sulphuretted hydrogen, which is accomplished in the following manner: After the gas has been freed from ammonia as above described, it is then to be passed through a vessel similar to those now in use for the purification of coal-gas by what is denominated dry lime, and charged in a similar manner with black oxide of manganese in powder, moistened with water to about the same consistency. The period required for each charge is to be ascertained and regulated by the same tests as if dry lime were used, and which is well understood, in short, requiring no further alterations, except in the materials I employ for the absorption of the sulphuretted hydrogen. This material, after it has ceased to absorb the sulphuretted hydrogen, is to be removed from the purifying vessel and wasted in an oven to expel the sulphur which it then contains. After this material has become thoroughly red in the oven, I have found two or three hours' further time to be sufficient to accomplish this object, taking care that whilst it is being raised it will be stirred about in the oven. After this operation is completed the material is fit again to be employed, by being placed in the purifier moistened with water as in the first instance. The same effect may be produced by the application of the oxide of zinc and the oxides of iron, and treated precisely in the same way as above described."

It was proved by evidence that *Croll* as a matter of fact did not know whether he used hydrated or anhydrous oxides of iron, but that following his method hydrated oxides alone could be used, the roasting not being at a temperature high enough to dehydrate the oxide. The specification, however, included both hydrated and anhydrous oxides of iron.

*Laming's* specification (No. 11944 of 1847) described various processes of purifying coal-gas. Amongst other materials chloride of calcium was used, also muriate and sulphate of iron. It was pointed out that "under certain circumstances it may, however, be desirable to make it, for the purposes of gas-purifying, by decomposing muriate of manganese, iron, or zinc, by means of lime, or of chalk when the latter will suffice. In such cases the oxides or carbonates which result are useful for the said purification, and need not be removed." He also claimed the use of oxides of manganese, iron, zinc, or lead (by preference, manganese) with chloride of lime. The preparation of black oxide of manganese by heating the carbonate "to a heat gradually increased to near redness, with access of air for an hour or two."

Evidence was also given of the known action of sulphuretted hydrogen on hydrated oxides of iron, and of the air on the former. It was also



proved that all oxides of iron would not do, but only the hydrated oxides artificially prepared by precipitation.

The jury found that the plaintiff's invention was new.

A rule *nisi* was obtained to enter a verdict for the defendants, or a non-suit on the following amongst other grounds :—

Anticipation by *Croll's* and *Laming's* specifications ;

Insufficiency for not specifying what oxides would answer, or for claiming all hydrated oxides, some being useless for the purpose ;

That the mere application of hydrated oxide of iron to absorb sulphuretted hydrogen from gas was not subject-matter, its properties and effects being well known ;

That the renovation of hydrated oxides by exposure to the air being well known, its application to gas-purification was not subject-matter.

The rule was discharged by the Court of Exchequer.

*Held*: That the terms "hydrated" and "precipitated" in the specification were synonymous ; that the specifications were such that the Court could not decide on them alone whether the invention was novel, and that it was rightly left to the jury.<sup>1</sup> Also that the application of the known chemical properties of substances to gas-purification was subject-matter.

Per Baron *Bramwell*, in delivering the judgment of the Court (at p. 369) : " It appears to us, upon looking at the specification, that the plaintiff uses these as equivalent expressions because he says 'hydrated or precipitated,' and that oxide of iron may be conveniently *prepared* for these purposes, and so on ; and therefore it is obvious that when he uses that word 'hydrated,' he uses it as synonymous with 'precipitated ;' and consequently, when he speaks of using hydrated or precipitated oxides, he means such oxides as are precipitated. That is the construction we put upon the specification, and therefore we think that objection fails.

" It is said that the mere application of the hydrated oxides to absorb the sulphuretted from coal-gas is not the subject of a patent, that property of it being previously well known. With that we do not agree. The answer is that the question is not properly stated. The application of the hydrated oxide is the principle. If a man were to say, ' I claim the use of hydrated oxide of iron for the purification of coal-gas ' without saying how it is to be applied, it is possible that the objection might be well founded ; but here the plaintiff says, ' I claim it in the manufacture of gas in the way I have described,' and he shows how it may be used. Therefore this objection fails."

### Notes.

This case was referred to as an authority to show the insufficiency of a model to anticipate an invention : *Winby v. Manchester Tramways Co.*,

<sup>1</sup> It was therefore unnecessary to go into the question of anticipation by these specifications ; but the material parts of them are here set out in view of *Hills v. Evans*, *post*, p. 222.

6 R. P. C. 364. It was also cited and followed by *Wright, J.*, in *Lyon v. Goddard* (10 R. P. C. 135) to show that a machine which does its work more or less badly does not invalidate a subsequent patent for an invention which turns "failure into success."

The facts in this case are referred to by Lord *Halsbury, L.C.*, in *The Cassel Gold Extracting Co. v. Cyanide Gold Recovery Syn.*, 12 R. P. C. 242, as being very similar to those in that case; and *Smith, L.J.*, quoted (p. 256) the passage of Baron *Bramwell's* cited above as being directly in point.

But in *Wylie & Morten's* application (13 R. P. C. 98) *Finlay, S. G.*, pointed out that the above case can only be cited for the proposition that if the earlier patent mentioned oxides of iron generally, and the subsequent patentee *by invention* found that certain particular oxides had advantages, the latter patent was valid.<sup>1</sup>

1860. SEED *v.* HIGGINS, 8 H. L. Ca. 550.

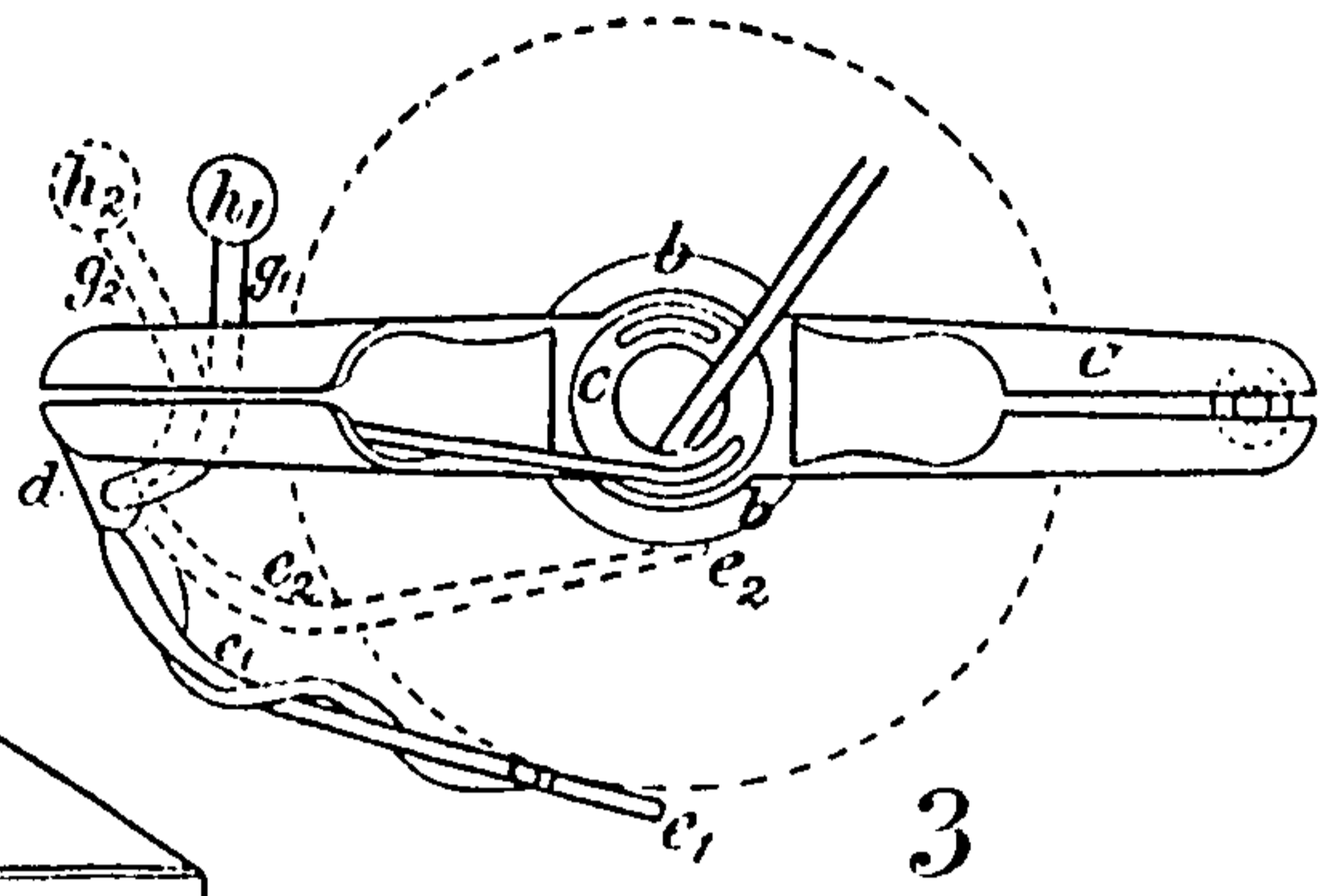
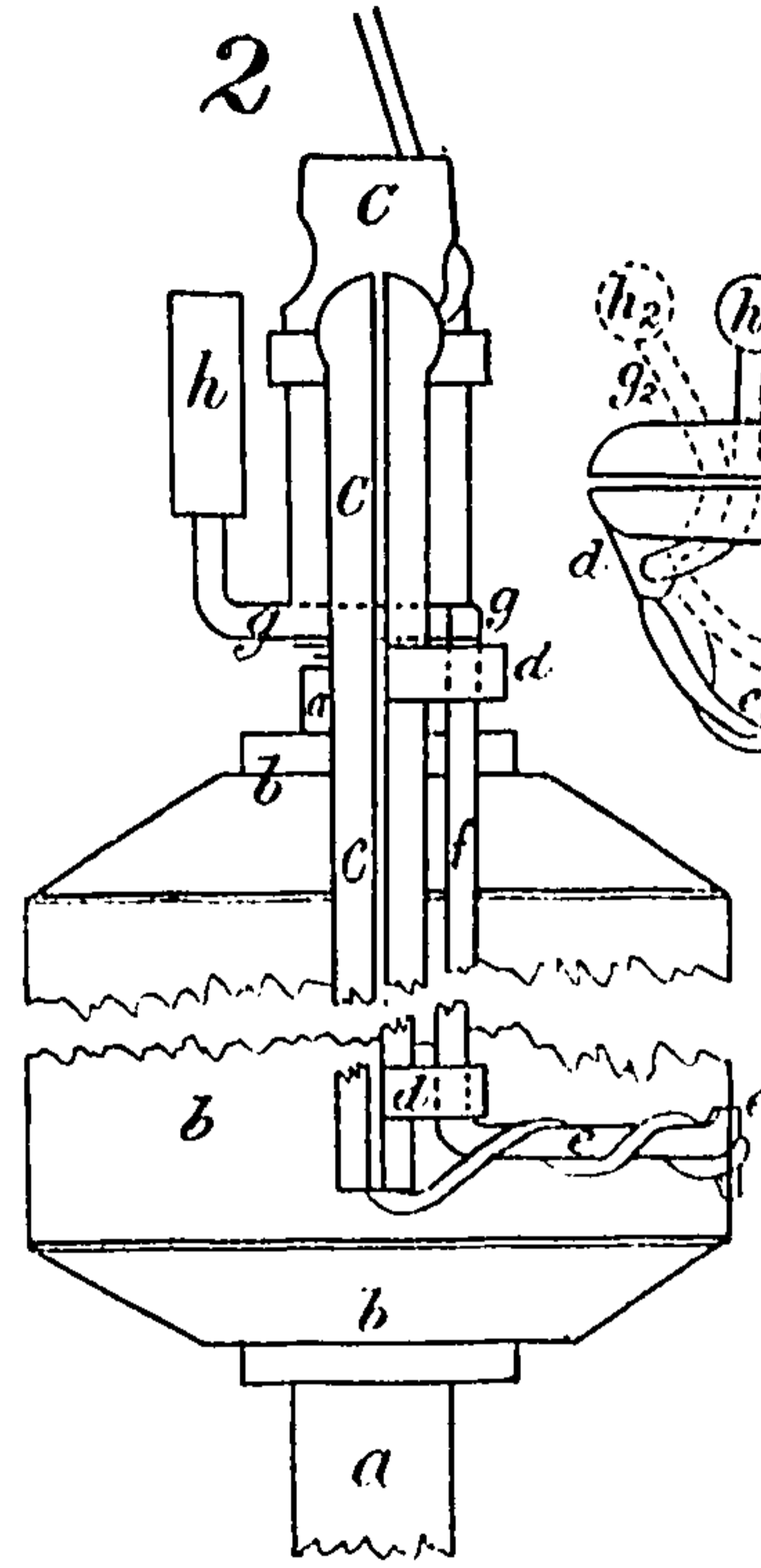
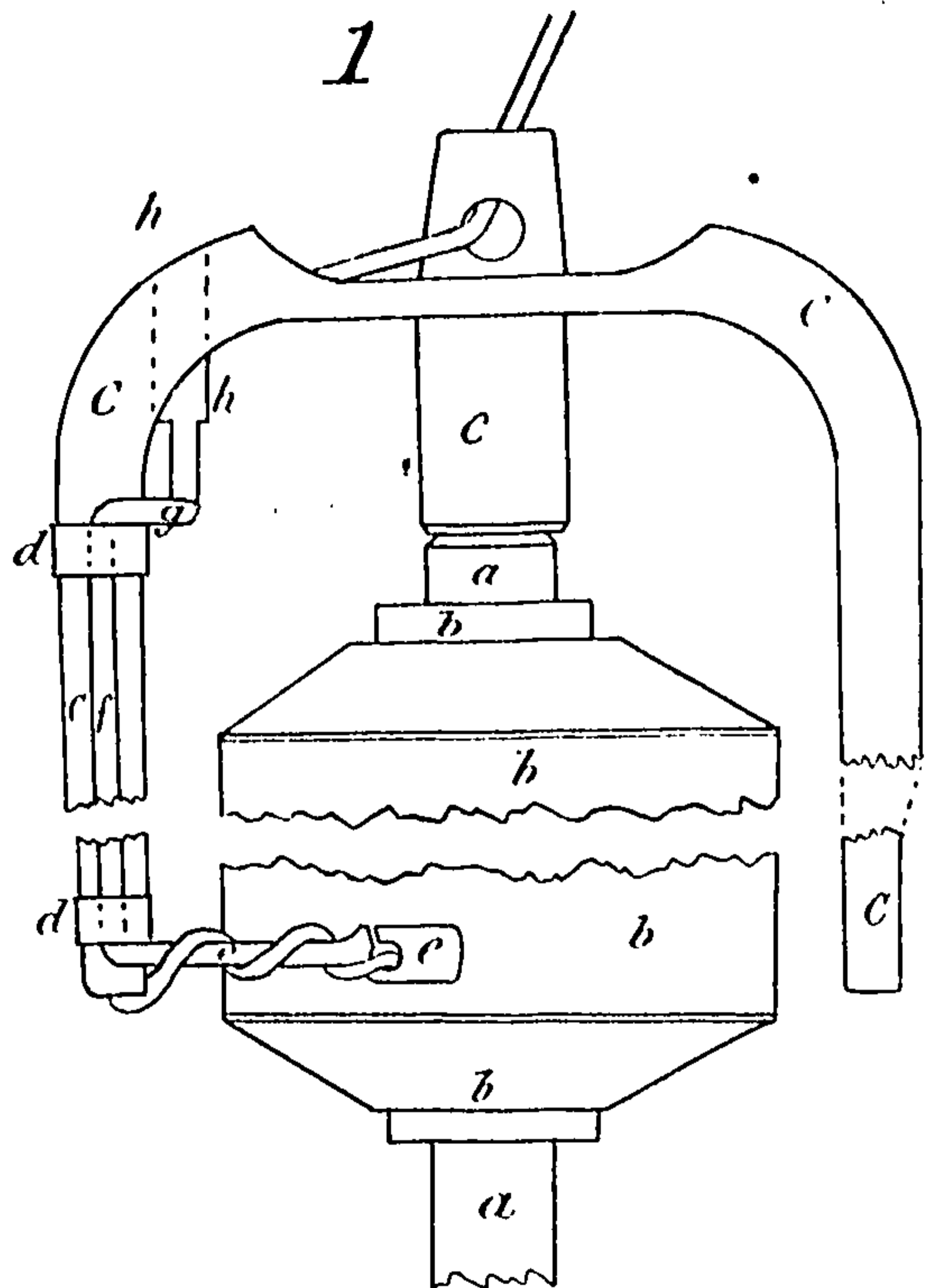
*Construction—Effect of Disclaimer.*

In 1846 a patent (No. 11293) was granted to *W. Seed* for "certain improvements in machinery or apparatus for preparing, slubbing, and roving cotton and other fibrous substances."

The specification was as follows: "My improvements in machinery or apparatus for preparing, slubbing, and roving cotton and other fibrous substances, apply solely to that part of such machinery called the flyer, which is employed in connection with the spindle for the purpose of winding the sliver or roving upon the bobbin. My invention consists in the application of the principle of centrifugal force to the flyers employed in the above-mentioned machinery, for the purpose of producing the required elasticity or pressure upon the bobbin, by causing the small spur or lever, which conducts the sliver of cotton or other fibrous material on to the bobbin, to press or bear against the same simply by the action of such force, instead of being effected by springs or such other mechanical pressure. By the application of this invention the bobbin of rovings will not only be made hard, but equally compressed throughout, as the pressure upon the same will be found to decrease slightly as the diameter of the bobbin increases, and thus equalize the formation thereof, instead of having the outer or finished diameter made harder than the interior, which has hitherto been the case." Then follows an explanation of the drawings, in which the same letters denote corresponding parts throughout. "Fig. 1 is a front elevation of the flyer; Fig. 2 is a side or edge view of the same; and Fig. 3 is a plan or horizontal view as seen from above. *a, a*, is the spindle; *b, b*, the bobbin; and *c, c*, the flyer. To one or both of the legs of the flyer *c, c*, are attached two or more fixed bearings *d, d*, supporting the guide or pressing apparatus *e, f, g*, formed of wire. The lower part or portion *e* of this wire is bent and formed into a

<sup>1</sup> *Hill's* claim was for his improvements only, and expressly disclaimed what *Croll* and *Laming* had done.





1 and 2 show tops and bottoms of Figs. 1 and 2 of Seed's specification (No. 11293 of 1846); 3 shows Fig. 3.

small spur or lever, for the purpose of conducting and delivering the sliver or roving of cotton, &c., on to the bobbin, and the vertical portion of the wire swivels loosely in the bearings  $d, d$ , attached to the hollow flyer leg; the upper end  $g$  is also bent into the form shown in the drawing, and has a small weight  $h$  attached thereto. It will thus be evident that the flyer  $c, c$ , revolves at a high velocity, the weight  $h$  upon the upper end of the wire will be thrown from the centre, and cause the spur or lever  $e$  at the lower end of the wire to bear or press against the bobbin  $b, b$ , the pressure slightly decreasing as the increasing diameter of the bobbin causes the weight  $h$  to approach the centre of rotation."

"The above apparatus represents one particular and practicable mode of applying my invention; but I would here remark that I do not intend to confine myself to this particular method; but I claim, as my invention, the application of the law or principle of centrifugal force to the particular or special purpose set forth, that is, to flyers used in machinery for preparing, slubbing, and roving cotton and other fibrous materials, for the purpose of producing a hard and evenly compressed bobbin."<sup>1</sup>

On August 12, 1854, the patentee filed a disclaimer<sup>2</sup> in the following terms:—

"I do hereby disclaim all application of the law or principle of centrifugal force as being part of my said invention, or as being comprised in my claim of invention contained in the specification, except only the application of centrifugal force, by means of a weight acting upon a presser, so as to cause it to press against a bobbin, as described in the specification. And I hereby declare that the above-written disclaimer is not intended to extend

<sup>1</sup> The drawings here given are taken from the case submitted to the House of Lords with the centre of Figs. 1 and 2 omitted. The full drawings were continuous, and showed the full length of bobbins and flyers being about double the length of those here shown. The revolution of the flyer constrains each part thereof to move in its own circle; direct tangential motion being impossible, this constant alteration in direction of motion produces a strain radially from the axis of rotation; this gives an apparent tendency to fly out radially (but really to move tangentially), termed "centrifugal force." Where the angular velocity is the same for all parts as in this case, the amount of this force at any part is proportional to the mass (commonly called "weight") of that part and its distance from the axis of the spindle. Since the portion marked  $f$  of the presser turns in bearings at  $g$ , the mechanical action of the presser depends only on the parts  $h, g, e$ , as shown in plan in Fig. 3. This lever,  $h, g, e$ , has its fulcrum at  $d$ , and each part of it is acted on by the so-called centrifugal force; but as the weight, or mass, of  $h$  is considerably more than that of the wire  $g, e$ , the effect is approximately that of a mass,  $h$ , on a weightless wire, and is so described in the specification. In Fig. 3,  $h_1$  shows the position of the weight at the beginning of the winding, and  $h_2$  when the bobbin is full; the outward pressures exerted by the mass  $h$  in these two positions will be proportional to the distances of  $h_1$  and  $h_2$  from the axis of the bobbin respectively; the pressures of  $e$  on the bobbin will be much less, about one-half those amounts.

The effect on the redistribution of mass of the flyer and shaping it so that its length is considerable parallel to the axis of rotation is to introduce by "centrifugal force" and by reactions of supports a couple in the plane of the axis of rotation and length of flyer, which tends to turn the top outwards. In *Dyer's* device the mass of the presser being at the end of the leg of the flyer, considerable vibration was set up in the flyer, hence *Seed's* device ran much more steadily.

<sup>2</sup> The disclaimer appears to have been filed on the discovery of *Dyer's* presser.



the exclusive right granted by the said Letters Patent, and shall not extend the said exclusive right in any way whatsoever."

This was an action for infringement.

At the trial one device, patented by *Dyer* (No. 5909 of 1830), was alleged as an anticipation. It consisted of the application of the same principles, to achieve the same object, but in a somewhat different manner. It is thus described in *Dyer's* specification: "These arms or pressers, being made of different forms, are designed to perform the office of guiding and pressing the rovings in different methods as follows, namely, a cross arm, as shown at Fig. 11, is made to swing freely upon the guide-arm of the flyer as a centre of rotation; the open circular groove in one end of this arm serves to conduct to and press the roving upon the surface of the bobbin. A part of this pressure is produced by the drag of the roving along the said groove in the process of winding the same upon the bobbin, the bobbin having in this case an excess of motion beyond that of the flyer, sufficient to cause the rovings to be duly taken up or wound thereon as they are delivered to the flyer. A further pressure of such rovings upon the surface of the bobbin is effected by the centrifugal force acting upon the opposite and heavier end of the arm or pressing instrument, as shown in the section at Fig. 11." In this device both arms of the lever constituting the presser moved substantially in the same plane.

The alleged infringement consisted of a device acting on the same principle, but that portion of the mass of the lever which performed the function of the "weight  $h$ " consisted of a casing parallel and close to the leg of the flyer, thus distributing the mass in a vertical plane. The mechanical action was almost the same as that of the plaintiff's device, but had not all its advantages of diminishing vibration, which were due to placing the greater part of the mass of the lever nearer the source of motion, and much above the plane in which the pressing-arm of the lever acted.

An objection was taken that "the disclaimer did, in fact, extend the claim, and described and claimed an invention different from that for which the patent had been granted."<sup>1</sup>

A verdict was given for the plaintiff (27 L. J. Q. B. 148).

An appeal was taken to the Exchequer Chamber on the ground of the

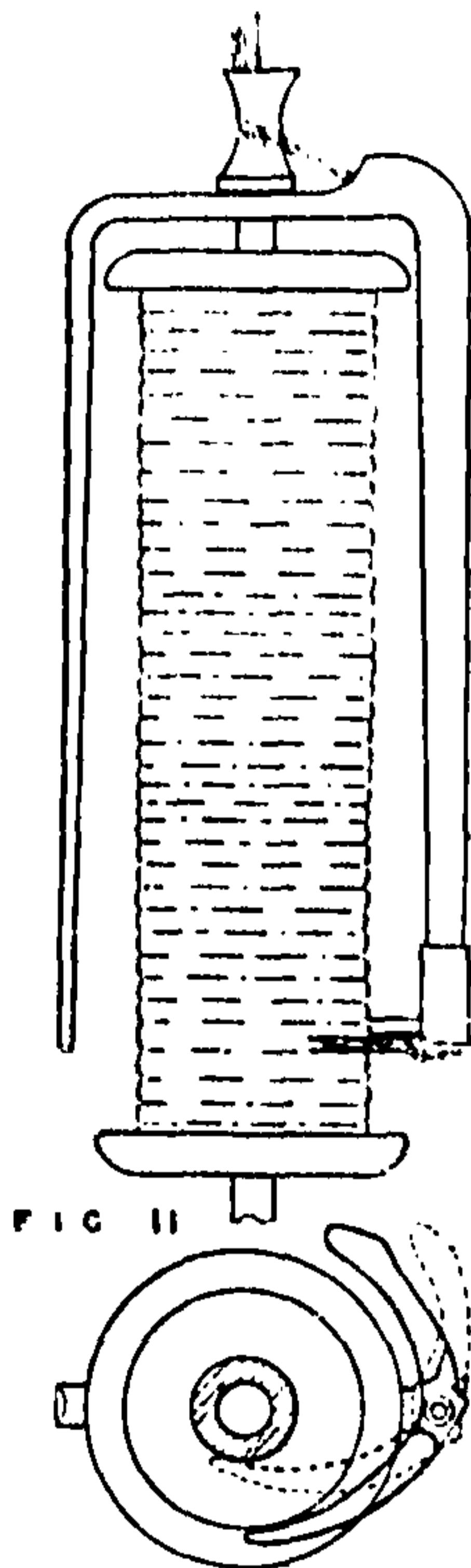


Fig. 11 of *Dyer's* specification.

<sup>1</sup> The case is noted here only so far as it affects the question of validity of the patent.

above objection, and that there was no evidence of infringement to go to the jury. The patent was upheld, but a new trial was ordered on the second ground (27 L. J. Q. B. 411).

Both parties appealed to the House of Lords.

*Held*, that the effect of the disclaimer was to abandon the general claim and to confine the patent to the particular claim for the precise mode described by the diagrams and specification, which therefore did not include the defendant's device.

Per Lord *Cranworth* (p. 563): "I think, reading the specification in a fair spirit, we must understand the patentee to have said that he claimed as his invention the application of centrifugal force to the flyers in the mode elaborately explained in his diagrams. But then he did not confine himself to that mode; he claimed, further, the application of the principle of centrifugal force to flyers used in machinery for preparing and roving cotton, in whatever way it might be applied. The effect of the disclaimer was to strike out of the specification this latter general claim, leaving only the claim for the particular mode of application specially described. I think it would be unreasonable and hypercritical to say that on a specification so framed the patentee had not claimed as his invention, or as part of his invention, what he had described. And when, therefore, by the disclaimer the general claim is abandoned, the particular claim remains good."

Lord *Chelmsford* (p. 568): "Whether the disclaimer in this case does extend the right must depend upon the construction of the original specification. Now, I do not understand the specification to claim, as the plaintiff's invention, the application of the law or principle of centrifugal force generally to flyers, and then to describe and exhibit the particular machine as an illustration of the mode in which that general principle might be carried into effect; but it appears to me that the plaintiff first claims the particular method described, and afterwards every other application of centrifugal force to the purpose set forth. Then when he disclaims all application of the law or principle of centrifugal force, except only the application of centrifugal force as described in the specification, he does not abandon the whole of his invention, and leave himself nothing but an illustration of it; but he gives up all that is general, and limits himself to a particular method, which was a substantial and independent claim, to which the general claim had previously been superadded. In this view the disclaimer certainly does not extend the right, nor can it be said to describe a different invention."

### Notes.

This case is an example of the necessity of construing the specification first before deciding the question of infringement: *Potter v. Parr*, 2 B. & S. 216 (*n*). It was referred to and distinguished in *Ralston v. Smith*, 11 H. L. Ca. 253, as showing that something may be disclaimed which leaves a perfect claim, but that a large or vague claim cannot be made good by



disclaimer. This case was again followed in *Daw v. Eley*, L. R. 3 Eq. Ca. 513, the narrow interpretation being in consequence of the disclaimer.

The above disclaimer left a claim only for the action of a certain weight in a given position, and did not include mechanical equivalents: per Lord *Hatherley*, in *Clark v. Adie*, 2 App. Ca. 332; also *Curtis v. Platt*, 3 Ch. D. 137 (n). Quoted to show that a claim to use a natural force in a prescribed manner may be a good claim: *Pirrie v. York St. &c.*, 11 R. P. C. 45c.

1862. BETTS v. MENZIES, 28 L. J. Q. B. 361; 31 L. J. Q. B. 233.

*Prior User—Benevolent Construction—Prior Publication, sufficiency of.*

In 1804 a patent (No. 2761) was granted to one *Dobbs* for an invention thus described: "A new article of trade, which I denominate Albion metal, and which I apply to the making of cisterns, linings for cisterns, covering and gutters for buildings, boilers, vats, coffin furniture, &c." The metal was formed by coating or plating lead with tin or with alloyed tin. A plate or ingot of lead or alloyed lead, and another of tin or alloyed tin, of equal or unequal thicknesses, are placed with their cleansed surfaces in close contact, and are passed together through a flattening or rolling mill, "with a hard pinch," once or oftener, so as to make the metals adhere. The rolls and metals may be heated. A plate of lead may be placed between two plates of tin, or alloys of tin, or a plate of lead coated or plated on one side may be doubled up, and rolled with the tinned surfaces outwards. A plate of lead or alloyed lead may be cast, and as soon as the metal is "set or congealed," it is coated by casting tin or alloyed tin upon and around it. The coated metal may be then rolled or pressed or wrought in the usual way.

In 1849 a patent (No. 12415) was granted to *W. Betts* for "a new manufacture of capsules, and of a material to be employed therein and for other purposes." This new manufacture "consists in combining lead with tin, by covering the lead with tin over one or both surfaces of the lead, and reducing the two metals in their conjoined state into thin sheets of a thickness suitable for the purposes to which they are to be applied." The molten lead to be cast into an ingot in a suitable mould and "of suitable internal dimensions for producing ingots of lead, which for the manufacture of the material for capsules may be about four or five inches wide by about three-quarters of an inch thick, and about thirty inches in length," gradually reduced wedge-like at the end. The tin to be cast "into similar ingots, of the same, or nearly the same, dimensions as the aforesaid ingots of lead, and between one-quarter and one-sixteenth of an inch in thickness, and several feet in length." The rolling of the lead is then described, and to be continued "as many times as may be requisite for reducing the lead to about one-fourth of an inch in thickness," the lead becoming elongated. In like manner the tin as many times "as may be requisite for reducing to about one-twentieth part of the thickness to which lead is reduced by rolling as

<sup>1</sup> This is a summary of the specification.

aforesaid, whatever that thickness may be." The mode of rolling was described to be repeated as often as requisite "for reducing the said strip of conjoined metals to the required thinness for the manufacture of capsules." "The said new manufacture, or compound metal of lead combined with tin on one or both sides in manner aforesaid, may also be employed for other purposes; such, for instance, for making into very thin sheets, as a substitute for what is called tin-foil," for which it might be used as a substitute. Then was described the mode of making it when one side only of the lead was to be covered with tin. The union of the metals was produced by mechanical pressure as distinguished from older processes. The described processes of casting, cutting, and rolling were not claimed "except when the same are employed for the purposes of my said invention."

The claims were:—

"Firstly, the manufacture of the new material lead combined with tin, on one or both sides of its surfaces, by rolling or other mechanical pressure, as herein described; secondly, the manufacture of capsules of the new material of lead and tin combined by mechanical pressure, as herein described."

At the trial it was proved that the patentee by his servants had manufactured large quantities of capsules before the date of his patent, but had not exposed them for sale, only making them in order to have a stock on hand by the time that the patent was sealed (27 L. J. Q. B. 154). *Held* by the Court of Queen's Bench that this was not such prior user as to invalidate a patent (28 L. J. Q. B. 361).

Lord *Campbell*, C.J.: There was no power in the Crown to grant monopolies "except with the conditions that are imposed by the reservation; but the reservation which must be relied on here is this, 'which others at the time shall not use.' Now, others had not used this before the patent was granted. It was used only by the inventor, the patentee himself; for the use of it by the servants and mechanics whom he employed must be considered his use; and therefore it was not used by others. But still, if it could be shown that the effect was really to extend the term of the monopoly, that would be fatal."<sup>1</sup>

The jury at the trial found that persons of ordinary skill reading *Dobbs'* specification, and having no other information on the subject, could not at once proceed to make *Betts'* metal.<sup>2</sup>

It was decided in the Courts of Queen's Bench<sup>3</sup> and Exchequer Chamber<sup>4</sup> that the invention disclosed by *Dobbs* in 1804 disclosed and anticipated that of the plaintiff *Betts*.

On appeal to the House of Lords.

The following questions were put to the judges:—

1. "Does it appear, on a comparison of the two specifications, that a material part of *Dobbs'* specification is claimed by *Betts* in his specification?"

<sup>1</sup> 28 L. J. Q. B. 365.

<sup>2</sup> 28 L. J. Q. B. 361.

<sup>3</sup> 27 L. J. Q. B. 154.

<sup>4</sup> 30 L. J. Q. B. 81.



2. "If so, can the Court pronounce *Betts'* patent void, simply on a comparison of the two specifications, without evidence to prove identity of invention, and also without evidence that *Dobbs'* specification disclosed a practicable mode of producing the result, or some part of the result, described in *Betts'* patent?"

It was held unanimously by the judges that (as regards the first question) the invention described by *Betts* was included in that described by *Dobbs*; but that in the absence of evidence of identity of inventions (it not being admitted that descriptions and terms of art were the same), and in the absence of evidence of *Dobbs'* specification being a sufficient description, there was no anticipation.

The following passage occurs in the reply of Mr. Justice *Blackburn*: "It is therefore for the Court alone to decide what is claimed. This must be ascertained by looking at the language used in the specification, and fairly reading it, so as to see what was the intention expressed, and this should be done without any reference to the object of the inquiry. Sometimes it is necessary to construe a specification, in order to ascertain whether or not any one may, subsequently to the date of the patent, do something alleged to be comprised in it without being guilty of an infringement. In such a case it is for the interest of the patentee to contend that the true construction of the specification includes that thing. Sometimes that same thing having been publicly done before the patent, the object of the inquiry is to ascertain whether the patent is void, because that thing which is not new has been claimed as part of the invention. In such a case it is for the interest of the patentee to contend that the true construction of the specification does not include this thing; but the Court is bound to give the fair interpretation to the language used in the same instrument, and say truly what is there described as the invention, whether the effect is favourable to the patentee or not."

In delivering judgment, Lord *Westbury*, L.C., based the decision of the case in the answer to the second of the above questions, and said (p. 277): "That answer involved two conclusions; first, that as the specification described external objects, though the language in both specifications should be identically the same, it would be impossible to predicate of the two that they described exactly the same identical external object, unless the terms of art used in both specifications could be ascertained to have been the same at the date of both the patents. The question of identity of signification belonged to the province of evidence, and not to the province of construction. The second branch of the answer involved this important conclusion, that to defeat a new patent, it must be clear that the antecedent specification disclosed a practicable mode of producing the result which was the object and effect of the subsequent discovery."

<sup>1</sup> 31 L. J. Q. B. 237.

<sup>2</sup> This was quoted and followed in *Patterson v. Gas, Light & Coke Co.*, 3 App. Cas. 245; *Shaw v. Jones*, 6 R. P. C. 336; *Gadd v. Mayor of Manchester*, 9 R. P. C. 516.

Lord *Cranworth*, in his judgment, said: "The two specifications might be identical, and the judge might be warranted in telling the jury not to find for novelty. But here they were not identical, and the earlier was deficient in those practical directions which constituted the essence of a valid specification. Dobbs supposed that, by pressure, tin and lead might be so combined as to form a new material. But it did not clearly explain how this was to be done, and it was therefore defective."

1868. BETTS v. NEILSON, I. R. 3 Ch. Ap. 429.

*Construction—Subsidiary Claim—Prior Manufacture without Sale—Proportions.*

In this case the same patent was sued on as in *Betts v. Menzies*, anticipation by *Dobbs'* specification was also alleged, and objections raised to the validity of the patent on the grounds of (1) prior user, (2) that the specification did not specify the proportions of lead and tin, (3) that the claim for the manufacture of capsules from the patented article (claim 2) was not subject-matter for a patent. Infringement was denied.

The evidence of prior user broke down, as to which Lord *Chelmsford*, L.C., said (p. 431): "If the evidence which I am about to examine establishes the fact that lead coated with tin by mechanical pressure, and capable of useful application, has upon any occasion been manufactured openly, not by way of experiment, but in the course of business, although not a single piece of that material was actually sold, I should hold that *Betts'* patent was invalidated."<sup>1</sup>

On appeal to the House of Lords (*Neilson v. Betts*, 5 H. L. 15).

Alluding to *Hills v. Evans* (31 L. J. Ch. 457) as to what is necessary in an anterior publication, Lord *Westbury* said: "My opinion was that the antecedent process, if it be relied on as forestalling the second, must be so clearly and distinctly described, that those who read it, bringing to it competent mechanical skill, would be enabled to work it out to the same result as that arrived at by the process described in the subsequent patent"<sup>2</sup>

As to the objection to the specification not specifying the proportions of lead and tin, Lord *Westbury* held that this was no objection to validity, as "he assigns these relative proportions, not as things which are in themselves unchangeable, but as being the best for the purpose which he desired to accomplish, and they are given rather as illustrations of the mode of user of the process than as certain definite termini which could not be exceeded or diminished either on the one side or the other."

As to the last objection, Lord *Westbury* pointed out that the material was claimed as the result of the process, and (as to the second claim) "the

<sup>1</sup> Quoted as authority in *Gill v. Coutts*, 13 R. P. C. 136.

<sup>2</sup> Authority for the proposition that a book-description must be equivalent to a specification in regard to the fulness of information given. *Plimpton v. Malcomson*, 3 Ch. D. 567, 568. *Haslam v. Hall*, 5 R. P. C. 19.



manufacture of capsules out of the material would be one purpose only to which the material could be applied; and if a claim to the material can be substantiated by the patent, the specification of a particular user of it, comprehended in the general user claimed, cannot for a moment be accepted as a ground for vitiating the patent."<sup>1</sup>

1862. HORTON v. MABON, 12 C. B. N. S. 437; 16 C. B. N. S. 141;  
31 L. J. C. P. 255.

*Subject-matter—No Invention.*

The invention was for "improvements in the construction of gasholders." It consisted of improved pillars, vertical travelling guides, fixed instead of movable guide roller bars, and improved construction of hydraulic cups or joints. The third claim was for the mode of constructing the hydraulic cups or joints of gasholders, "in which the top or bottom of the hydraulic joint or valve is formed of plates of iron made or bent into a cup shape, so as to admit of the valve being made complete and attached to the gasholder without the necessity of employing angle iron and double sets of rivets, as is usually the case." It was proved that previously to the patent those joints were constructed of angle iron in three pieces, made to the curve of the gasholder, and fastened with four rows of rivets. Two pieces of angle iron were riveted to the bottom plate. By the patentee using double angle iron he saved two rows of rivets. Double angle iron had been substituted for two pieces of single angle iron in other cases. In this case the result was beneficial, and was a cheaper and better way of using known things.

*Held*, that the case was much weaker than *Harwood v. G. N. Ry. Co.*, and the patent could not be sustained.<sup>2</sup>

Confirmed on appeal, 16 C. B. N. S. 142.

1862. LANG v. GISBORNE, 31 L. J. Ch. 769; 31 Beav. 133.

*Prior Publication—Sale of Foreign Publication in England.*

The patents sued upon were applied for in February, 1860, and May, 1861.

A description of the invention had been published in a French book in 1857. One copy was sold in England to Mr. Wheatstone on December 31, 1859, another to the Cambridge University Library on May 6, 1858, others to persons during the months of August, 1858, and March, 1859.

Lord *Romilly*, M.R., held that there was publication of the invention sufficient to invalidate the patent. In his judgment the learned judge stated

<sup>1</sup> A subsidiary claim (one that does not extend monopoly) for a detail or particular advantage does not raise an objection to a patent: *Plimpton v. Spiller*, 6 Ch. D. 427, 434; followed in *British Dynamite Co. v. Krebs*, 13 R. P. C. 199.

<sup>2</sup> At the trial the learned judge, *Erle*, C.J., directed the jury that the invention was not subject-matter. The facts of the case were compared with those of *Harwood v. G. N. Ry. Co.*

the law generally, and continued (p. 771): "A publication, however, takes place when a person who is the inventor of any new discovery, either by himself or by his agents, makes a written description of that, prints it in a book, and sends it to a bookseller to be published in this country. It is not at all necessary to establish the fact that one volume of that book has been sold. As soon as an inventor informs the public of what his invention is and publishes that in a book, which he sends to a publisher to sell, the moment that book is exposed in the shop for the purpose of purchase, then that becomes a complete publication in point of law. . . . There is no difference when the inventor is a Frenchman or any other foreigner who publishes a book in his own language, but sends it over to a bookseller in this country for the purpose of being sold."

### Notes.

In *Plimpton v. Malcomson* (3 Ch. D. 561, 562), *Jessel*, M.R., quoted the above remarks as a *dictum*, holding that publication was a question in each case for the judge on the facts proved. It was cited, as an authority for the proposition that the fact of the book being foreign makes no difference, by *Chitty*, J., in *Harris v. Rothwell* (3 R. P. C. 389); in the same case, on appeal, *Lopes*, I.J. (4 R. P. C. 234), quoted the above passage as being the law, and said that the lodging of a German specification in the Patent Office was stronger evidence of publication than sale in a shop.

The remarks of Lord *Romilly*, M.R., above, were part of his declaration of the law, "so that there should be no ambiguity" as to his view of the law. When the case was quoted in argument in the House of Lords, in *Pickard v. Prescott* (9 R. P. C. 200), Lord *Watson* declined to consider any case as precedent on facts. In that case Lord *Halsbury*, L.C., said that "occasional observations made by learned judges on questions of fact in a particular case have been from time to time misunderstood as carrying some opinion upon the subject of the general law, and have given rise to confusion" (p. 200). Lord *Watson* (p. 204) expressed the same opinion.

1862. HILLS v. EVANS, 4 De Gex F. & J. 288.

### *Paper Anticipation.*

This was a suit in equity for an injunction against the defendant to restrain him from infringing the plaintiff's patent, which was the subject of the action of *Hills v. The London Gaslight Co.* (*ante*, p. 208).

In addition to the defences there raised,<sup>1</sup> the specification of *Heard* (No. 2941 of 1806) was put forward as an anticipation. The object of *Heard's* invention was the "withdrawal of the sulphur from the gas obtained from coal." He described a process of mixing lime with coal and the passing

<sup>1</sup> See specifications of *Croll* and *Laming*, *ante*, p. 210.



of the gas over lime in a heated iron tube; the fixed alkalies and alkaline earths when deprived of their carbonic acid might be substituted for lime and also such metals or their oxides as "iron, manganese, zinc, copper, lead, &c."

In delivering his judgment Lord *Westbury*, L.C., said (p. 294) that questions of expert nature as to the truth of the process described, the meaning of technical terms and significance of phrases, were matters of evidence for a jury, and that subject to such being left to them, the interpretation of the specifications was for the Court. The identity of the external things indicated by descriptions is for the jury (p. 295). There remained, therefore, the question as to "what shall be the nature of the antecedent publication which shall be held sufficient to anticipate" a subsequent patent "on the ground of want of novelty" (p. 299). A specification must necessarily be a publication (p. 300). In other respects there is no difference in the application of the rule between specifications and other publications. "The antecedent statement must be such that a person of ordinary knowledge of the subject would at once perceive, understand, and be able practically to apply the discovery without the necessity of making further experiments and gaining further information before the invention can be made useful. If something remains to be ascertained which is necessary for the useful application of the discovery, that affords sufficient room for another valid patent."<sup>1</sup> The invention patented must not have been "publicly known." One means of making an invention publicly known is by a specification. How much information is necessary? "The (p. 301) information as to the alleged invention given by the prior publication must, for the purposes of practical utility, be equal to that given by the subsequent patent. The invention must be shown to have been before made known. Whatever, therefore, is essential to the invention<sup>2</sup> must be read out of the prior publication. If specific details are necessary for the practical working and real utility<sup>3</sup> of the alleged invention, they must be found substantially in the prior publication." Publication of generalities or partial truths, which leave things to be discovered, cannot anticipate the subsequent complete invention. "To carry me to the place at which I wish to arrive is very different from merely putting me on the road that leads to it. . . . Upon principle, therefore, I conclude that the prior knowledge of an invention to avoid a patent must be knowledge equal to that required to be given by a specification, namely, such knowledge as will enable the public to perceive the very discovery, and to carry the invention into practical use." The alleged anticipations, *Croll's*, *Laming's*, and *Heard's*, were then discussed, and the plaintiff's patent held to be valid.

<sup>1</sup> His lordship was dealing with a case of an invention which was a step in advance of the alleged anticipations which were excluded from the claim (*ante*, p. 209).

<sup>2-3</sup> These words show that he was dealing with a question of invention. He was not dealing with a case where the alleged anticipation was an invention of the same ambit as the one attacked, but was insufficient only in directions as to carrying it out.

## Notes.

Lord *Westbury's* judgment has been quoted very often in patent cases in support of two propositions that are essentially distinct. The first is that an antecedent publication to anticipate a subsequent patent must contain such a full description of the invention in question that a skilled workman need not make further discovery or invention to produce the invention of the subsequent patent; the second is, that the prior anticipating publication must not only disclose the subsequent invention fully, but also all needful directions for carrying it into effect, *i.e.* if the prior publication be a specification, it must be "sufficient" in the technical sense.

The former of these propositions is undisputed, and *Hills v. Evans* has been followed in this respect in *Betts v. Menzies*, 10 H. L. Ca. 154; *Hills v. Liverpool United Gas Co.*, 32 L. J. Ch. 30; *Neilson v. Betts*, 5 L. R. H. L. 15; *Otto v. Linford*, 46 L. T. (per *Brett*, L.J., at p. 46); *American Braided Wire Co. v. Thomson* (*Bowen*, L.J.), 5 R. P. C. 124; *Shaw v. Jones*, 6 R. P. C. 336; *Gaulard & Gibbs' Patent* (Lord *Halsbury*, L.C.), 7 R. P. C. 386; *Gadd v. Mayor of Manchester*, 9 R. P. C. 525; *Cassel Gold, &c. Co. v. Cyanide Gold, &c.*, 12 R. P. C. 256; *Savage v. Harris*, 13 R. P. C. 366; *Lewis & Stirckler's Pat.*, 14 R. P. C. 36; *Defries v. Sherwood*, 14 R. P. C. 318.

The second proposition rests on a different basis. In *Hills v. Evans* the plaintiff's invention consisted of an improved process, the claim disclaiming what was included in the alleged anticipations, which were successful as far as they went. One process (*Laming's*) is described in comparatively recent foreign publications dealing with gas-purification hence the concluding remarks (as quoted above) in Lord *Westbury's* judgment go beyond the facts, and if intended to be taken as equivalent to the second proposition stated above, amount merely to a *dictum*. Such an interpretation was put upon the passages quoted above by Lord *Chelmsford*, L.C., in *Betts v. Neilson* (L. R. 3 Ch. Ap. 432), but there he does not assent to so wide a proposition (p. 432), approving of *Betts v. Menzies* (1 E. & E. 990), to the effect that the prior specification, although "insufficient," might show the latter to be not wholly new; his lordship was dealing in that case with an alleged "paper anticipation" which had never worked successfully. So, too, in *Neilson v. Betts* (L. R. 5 H. L. 15), Lord *Westbury*, in confirming his remarks in *Hills v. Evans* (p. 15), was dealing with the same paper anticipation which had never been proved to have been used. The distinction as to the different state of facts as regards the alleged anticipations in these cases (*Hills'* being successful and the alleged anticipation disclaimed, and in *Betts* the alleged anticipation was a failure) was not noticed by *Jessel*, M.R., in *Plimpton v. Malcomson* (3 Ch. D. 568), when he treated the second of the above propositions as being finally decided. Hence this *dictum* was relied on by *Holker*, L.J., in *Otto v. Linford*, 46 L. T. 46; by *Chitty*, J., in *Moseley v. Victoria Rubber Co.*, 4 R. P. C. 252; in *Haslam v. Hall*, 5 R. P. C. 19; in



*Moser v. Marsden*, 10 R. P. C. 212, 363; by Charles, J., in *Thierry v. Rickmann*, 12 R. P. C. 428. In the last case the learned judge relied upon it, and was overruled by the House of Lords. (See *post*, p. 391.)

The last passage of Lord Westbury's judgment was followed by Smith, L.J., in *The Shrewsbury & Talbot Cab Co. v. Sterckx*, 13 R. P. C. 53.

In *Ehrlich v. Ihlee*, 5 R. P. C. 450, Cotton, L.J., said: "We know what is necessary if there is said to be anticipation, not by the existence of an actual thing, but by description—either in a specification or otherwise—that the description must be of such a character as to enable any one competent to make the machine for which protection is claimed by the patentee to make it from the description given. There is nothing here which it could be suggested would enable any competent workman, or any expert, to make from that description the machine for which the plaintiff claims protection." The foregoing passage, omitting the last sentence here quoted, has been often referred to, sometimes vaguely as supporting the proposition that "sufficiency" in an anticipating specification is necessary (*Winby v. Manchester, &c.*, 6 R. P. C. 363; *Moser v. Marsden*, 10 R. P. C. 364; *Shrewsbury, &c. v. Sterckx*, 13 R. P. C. 53; *Pneumatic Tyre Co. v. Leicester, &c.*, 16 R. P. C. 57), and at another time to show that invention must be fully disclosed (*Cassel Gold, &c., Co. v. Cyanide, &c.*, 12 R. P. C. 256).

But without referring to any of the above cases, Grove, J., in *Philpott v. Hanbury*, 2 R. P. C. 43, expressed his opinion as a *dictum* than an anticipating specification need not be "sufficient," drawing a distinction between the *disclosure of an invention* and the *directions* necessary to perform it. This view, without allusion to authorities, was also adopted by Lord Halsbury, L.C., and Lord Watson in *King & Co. v. Anglo-American Brush Co.*, 9 R. P. C. 317, 320 (*post*, p. 340), and followed by Lindley, L.J., in *Savage v. Harris*, 13 R. P. C. 368.

When the cases are examined in the light of the facts of each, it is submitted that the proposition that an invention can be anticipated by a description only when the latter includes all directions necessary to a workman to carry out the invention has no authority to support it.

1864. FOXWELL v. BOSTOCK, 4 De G. J. & S. 298.

*Construction—Effect of Disclaimer—Claim for Combination—Claim too Large.*

In 1852 a patent (No. 413) was granted to C. T. Judkins for "improvements in machinery or apparatus for sewing or stitching."

A provisional specification was filed; the complete was filed on April 15, 1853. On March 12, 1862, D. Foxwell, the assignee of the patent, and plaintiff, filed a disclaimer, assigning as a reason that parts of the invention were possibly old, and that he was advised it was not expedient to make a separate claim for those parts apart from the general combination.

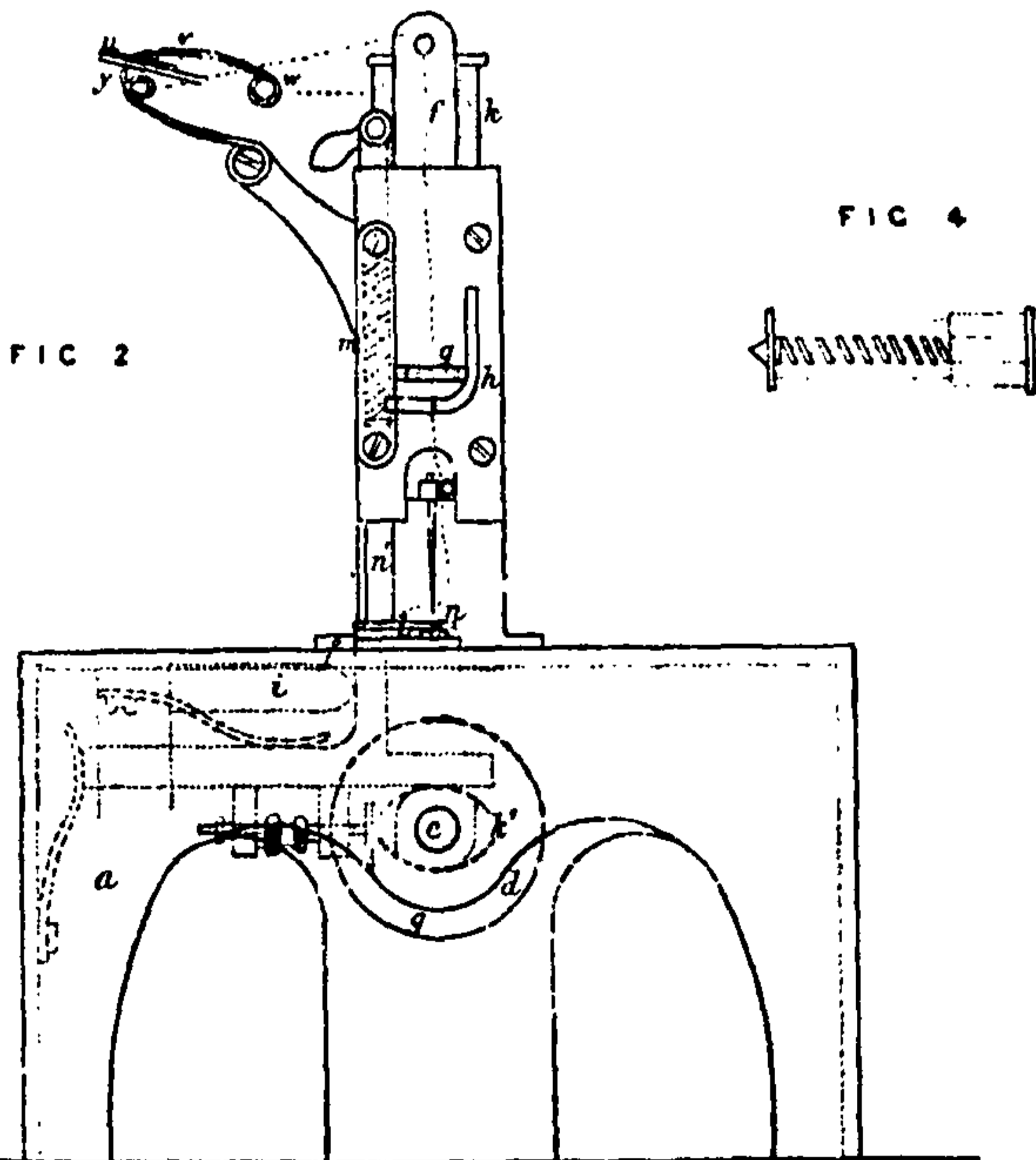
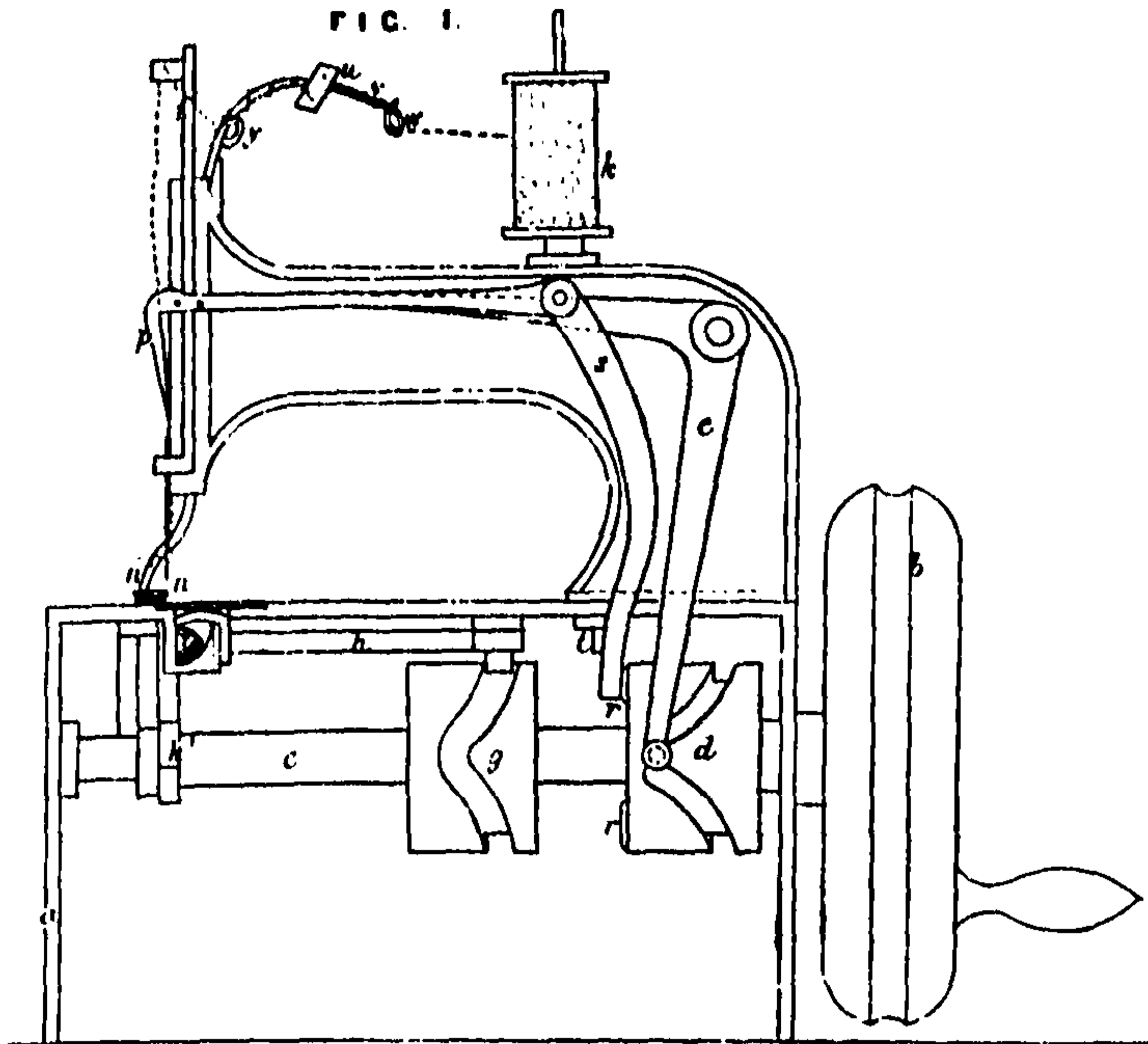
The complete specification (as amended) began in the following terms: <sup>1</sup>—

“ My invention relates to an improved arrangement and combination of machinery for sewing or stitching by a needle and shuttle, [and of regulating the supply of the silk or thread to the needle and shuttle, so as to keep it to a proper tension during the operation of sewing or stitching, with a means of enabling the mechanism to accommodate itself to different thicknesses of silk, thread, or material]. I work the shuttle (*i*) by a driver *actuated by a bell crank and cam* (*g, h*), between the ends of which *said driver* the shuttle lies with a slight play, so that when the driver acts on the back end of it to force it through the loop or bow formed by the vertical needle (*n*) [passing the silk or thread through the material, and then partially rising or returning]; there is sufficient space between the forward end of the driver and the shuttle for the passage of the thread, and at the end of this motion the shuttle remains nearly in a state of rest for an instant, whilst the driver receives a slight back movement to permit the passage of the thread between the back end of the shuttle and the driver. The shuttle remains nearly stationary whilst the needle is rising, and at the time the feed motion is given to the cloth, [by means of which there are three pulls given simultaneously, the upward pull of the needle on the needle thread, the feed motion of the cloth or material in one direction, and the strain in the other, so that the two threads are drawn together to draw the stitch tight]. The small spool or bobbin (Fig. 4) which supplies the shuttle with the silk or thread is placed in the shuttle, [and in the axle or tube thereof is a spring (Fig. 4) to control or regulate the supply of the silk or thread to the shuttle]. The thread to the vertical needle is regulated or controlled during the downward motion by means of a regulator (*u*) turning on a pin or wire (*v*), which makes a slight pressure on the silk or thread as the needle descends, which pressure may be increased or diminished as circumstances may require by simply turning the lever thereof a little up or down. [This] *The* silk or thread passes from the spool or bobbin (*k*), which is fixed on the frame (*a*) of the machine in any convenient position, through the said regulator (*u*) connected to the machine nearly opposite to the needle carrier, is guided to the bottom part of the vertical needle (Fig. 2, *f n*), and passed through an eye about half an inch from its point, so that as the needle descends it passes through the cloth, and then partially rises or returns, thus forming a loop or bow; then the shuttle carries the silk or thread through the loop or bow, and it is tightened, [as already described], thus forming a stitch.”

Then followed a detailed description of the machine as illustrated by the drawings; there were some small corrections inserted by the disclaimer and amendment. The detailed description included all the machinery as shown in the drawings, presser-pad, thread-tension regulator, and those parts

<sup>1</sup> The references to the drawings in this passage of the specification are, to avoid prolixity or repetition, here inserted by the author of this work; the same letters denote the same parts throughout. The words introduced by the disclaimer are inserted in italics, and those struck out are shown in square brackets.





Drawings taken from Judkins's specification (No. 413 of 1852).

that were disclaimed from the foregoing description and from the claim below.

The amended claim<sup>1</sup> was as follows:—

“ Having thus described the nature and particulars of my said improvements, I desire it to be distinctly understood that [I do not confine myself to the exact details herein described, as such may be varied or modified without departing from the principle thereof, but] I claim as new and of my invention, the combination and arrangement of the various parts of machinery for sewing or stitching, with the use of a needle and shuttle, [the methods of regulating the supply of the thread or silk to the needle and shuttle, the arrangement of accommodating the machinery to the different thicknesses of the thread or silk, and the means of preventing the material rising, or the missing of the stitch when different thicknesses present themselves, as herein described and illustrated”].

The issue of validity was tried before Lord *Westbury*, L.C., without a jury.

The plaintiff proved that the novelty and utility of the invention lay in the arrangement of the three cams, *d*, *g*, and *k*<sup>1</sup>, on the same shaft, *c*, by which the needle movement, the shuttle movement, and the feed movement were effected.

*Held*: (1) p. 308: Since the mechanical arrangements for the separate auxiliary inventions (which were struck out of the claim) have been retained and corrected in the description, they form part of the combination as claimed, which therefore becomes different from that for which the patent was granted; and (2) p. 313, that the patent was invalid because the specification claimed a whole combination without disclosing in what part the real novelty and invention lay, or limiting the claim to it.

Lord *Westbury*, L.C. (p. 313): “ I must, therefore, lay down the rule which is consistent with and in reality a mere sequence from the decided cases, that in a patent for an improved arrangement or new combination of machinery the specification must describe the improvement and define the novelty otherwise and in a more specific form than by the general description of the entire machine: it must, to use a logical phrase, assign the *differentia* of the new combination.”<sup>2</sup>

### Notes.

The remarks of Lord *Westbury* in *Foxwell v. Bostock* have sometimes been quoted as supporting the proposition that in a specification for an invention of a combination it must always be pointed out what parts are old and what new; it was so dealt with in comparing details of *Judkins'*

<sup>1</sup> The parts struck out by disclaimer are shown in square brackets.

<sup>2</sup> This passage is frequently referred to as containing a correct statement of the effect of this case. See *Harrison v. Anderston Foundry Co.* (1 App. Ca.), per Lords *Chelmsford* and *Pensance*, pp. 580 and 592; *Webb v. Kynochs*, 15 R. P. C. 543 (per Lord *Ashbourne*, L.C.I.).



specification and those under discussion in the cases of *Harrison v. Anderston Foundry Co.* (4th Series, Court of Sess., vol. 2, p. 865) and *Moore v. Bennett*, 1 R. P. C. (per Cotton, L.J., 138, and Lindley, L.J., 140), both of which cases were reversed on appeal by the House of Lords.

*Foxwell v. Bostock* decides that an invention of new parts in an old machine must be claimed as a separate improvement, or in combination with old parts as a claim for a combination: per Lord Cairns, L.C., in *Clark v. Adie*, 2 App. Ca. 328, and in *Harrison v. Anderston Foundry Co.*, 1 App. Ca. 577. The novelty of the improvement must be stated, and not merely the whole machine claimed (*ibid.*, per Lord Hatherley, p. 583, per Lord Penzance, p. 592; *Clark v. Adie* (No. 2), 2 App. Ca. 433, per Lord Hatherley; *Liggott v. McGeoch*, 10 R. P. C. 435; *Kynochs v. Webb*, 17 R. P. C. 115, per Lord Davey).

*Foxwell v. Bostock* should be considered always as explained in *Harrison v. Anderston, &c.*: per Lord Selborne, L.C., in *Moore v. Bennett*, 1 R. P. C. 143; per Bowen, L.J., in *Proctor v. Bennis*, 4 R. P. C. 358.

The effect of *Foxwell v. Bostock* as given above is substantially approved in different words in the following cases: *Moore v. Bennett*, 1 R. P. C. (per Lord Selborne, L.C., and Lords Blackburn, Watson, and Fitzgerald at pp. 143, 149, 152, and 153); *Cartsburn v. Sharp*, 1 R. P. C. 185; *Rowcliffe v. Morris*, 3 R. P. C. 21, 24; *Webb v. Kynochs*, 15 R. P. C. 543.

It is not necessary that the novel parts be expressly named as such in any particular part of the specification, so long as fairly reading the whole or in comparing the claims the novelty is apparent: Lindley, L.J., in *Nordenfelt v. Gardner*, 1 R. P. C. 74.

Another way of looking at *Foxwell v. Bostock* is that it shows that a patentee must not claim more than his real invention: *Watling v. Stevens*, 3 R. P. C. 41.

If the whole combination be new, it is immaterial as regards sufficiency to specify if the respective parts of the combination are new: Cotton, L.J., in *Proctor v. Bennis*, 4 R. P. C. 351. If the invention be the whole combination itself, there is no necessity to describe and claim the novel individual parts: Romer, J., in *Perry v. La Société des Lunetiers*, 13 R. P. C. 670.

*Foxwell v. Bostock* has also been followed in *Parkes v. Stevens*, 8 Eq. Ca. 365; *Murray v. Clayton*, L. R. 7 Ch. Ap. 578, 586; *Clark v. Adie*, L. R. 10 Ch. Ap. 674; *Kynochs v. Webb*, 17 R. P. C. 110.

1865. RALSTON v. SMITH, 11 H. L. Ca. 223; 35 L. J. C. P. 49.

*Construction—Disclaimer—New Manufacture.*

In 1858 a patent (No. 2654) was granted to *W. Ralston* for "improvements in embossing and finishing woven fabrics, [and in the machinery or apparatus employed therein]."<sup>1</sup>

<sup>1</sup> These words in brackets were subsequently struck out by disclaimer.

The specification described, without drawings, an alleged method of producing in one operation the bright lustre on the surface of the fabric and impressing any desired pattern at the same time. This was to be effected by indenting the rollers, made of metal, wood, or suitable material, with any pattern desired, and by means of known suitable gearing, driving these rollers at a higher or lower speed than the bowls connected with them, so calendering and impressing a pattern at the same time.

On January 27, 1860, a disclaimer was filed. The title was abbreviated as above. All rollers were disclaimed "except those which are made of metal or other suitable material, and have circular grooves, flutes, or indentations made *around* their surfaces;" all other designs on the rollers were disclaimed. Water patterns were also disclaimed except those produced by grooves, &c., "as numerous as the warp threads in the fabric to be operated upon, or nearly so." The claim was in the following terms<sup>1</sup>:—"The employment of grooved, fluted, [engraved, milled,] or [otherwise] indented rollers of *hard* metal, [wood,] or other suitable material driven at a greater speed than the bowl or bowls connected with them, so as to exert a rubbing or friction upon the fabric submitted to their action, and thereby produce an indefinite variety of patterns as well as bright finish or lustre, and also reversing the operation by giving the bowl a quicker motion than the pattern roller."

The action was one for infringement.

The alleged infringement consisted in using a roller grooved spirally, the spiral being a screw-groove of sixty-eight threads to the inch—the same as the number of circular grooves required according to the specification to correspond to the warp-threads.

It was proved at the trial—that calendering by means of smooth rollers revolving at higher speeds than those of their respective bowls was well known, also the operation of impressing a pattern by means of indented rollers revolving at the same speed as the bowls; that the attempt to use the alleged invention, as originally described, would destroy the fabrics; that the plaintiff accidentally discovered that if a fabric were fed sideways into roller and bowl, the former being grooved circumferentially in circles and revolving faster, a water pattern was produced.

*Held* (on appeal to the House of Lords), (1) that the specification was confined to rollers grooved in circles, and not a spiral; (2) that this was an abuse of the power of disclaimer, which was not intended to enable one to specify for a particular discovery requiring research from a bad specification in general terms; and (3) that the invention described in the amended specification was not a "new manufacture."

Per Lord *Cranworth* (p. 250): "I quite agree with what was said by

<sup>1</sup> The original disclaimer was a separate document attached to the specification, and contained the revised description and claim. For convenience the old and new claims are shown here by the modern method. To read original claim omit all words in italics and include those in square brackets; to read amended claim omit words in brackets and include those in italics.



Mr. *Grove*, that it is not every useful discovery that can be made the subject of a patent, but you must show that the discovery can be brought within a fair extension of the words 'a new manufacture.'" A manufacturer would be stopped from employing his old rollers in the useful way discovered.

### Notes.

The above decision was to the effect that the specification only showed a new use for an old machine : per *Fry, J.*, in *Edison v. Woodhouse*, 4 R. P. C. 93. It was distinguished in *Moser v. Marsden*, 10 R. P. C. 362, by *Smith, I. J.*, on the ground that *Ralston* only proposed to do what had been done before.

*Ralston v. Smith* was followed in *Kynochs v. Webb*, 17 R. P. C. 116, Lord *Davey* quoting the above extract from Lord *Cranworth's* judgment as being in point in that case.

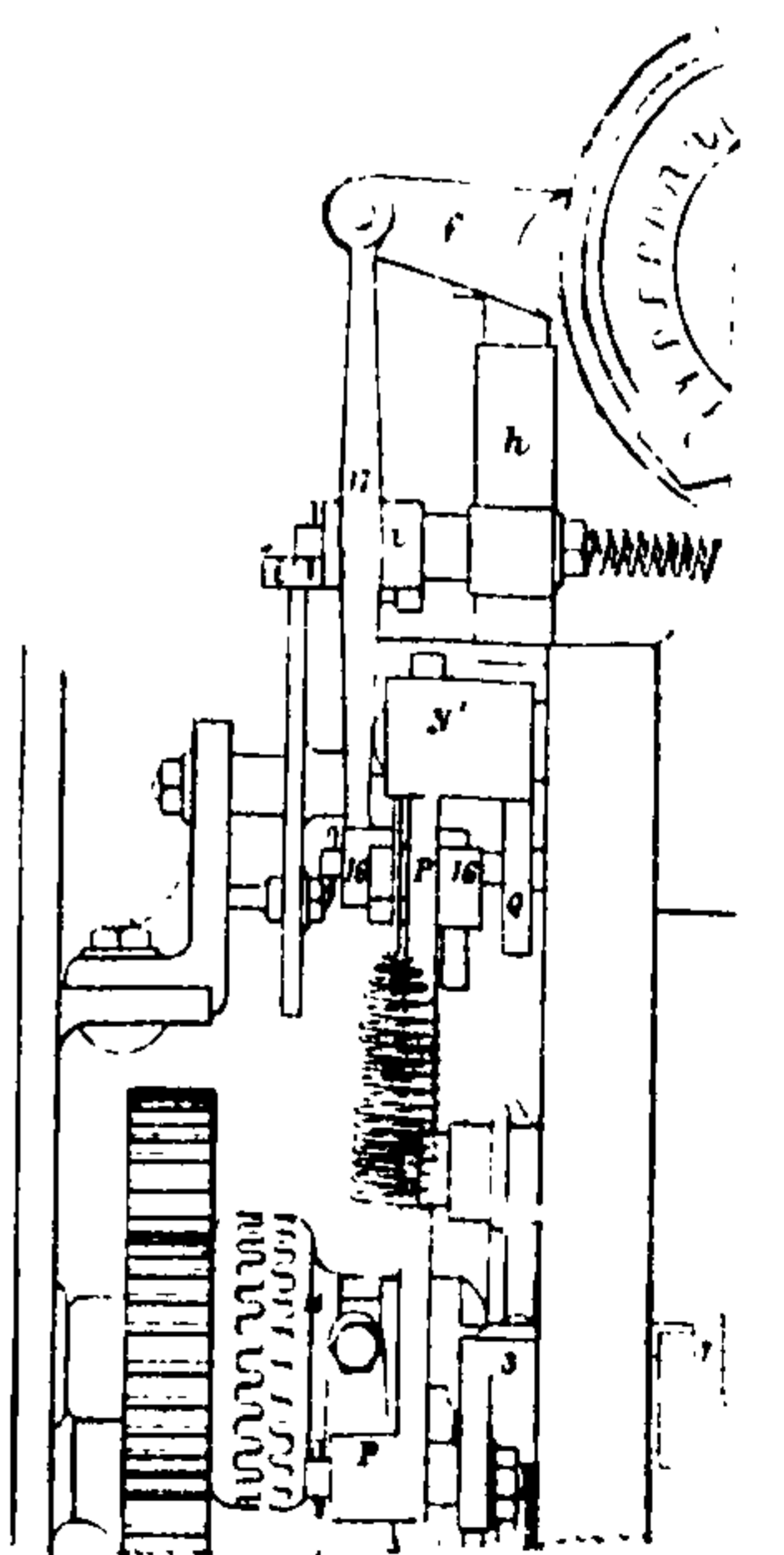
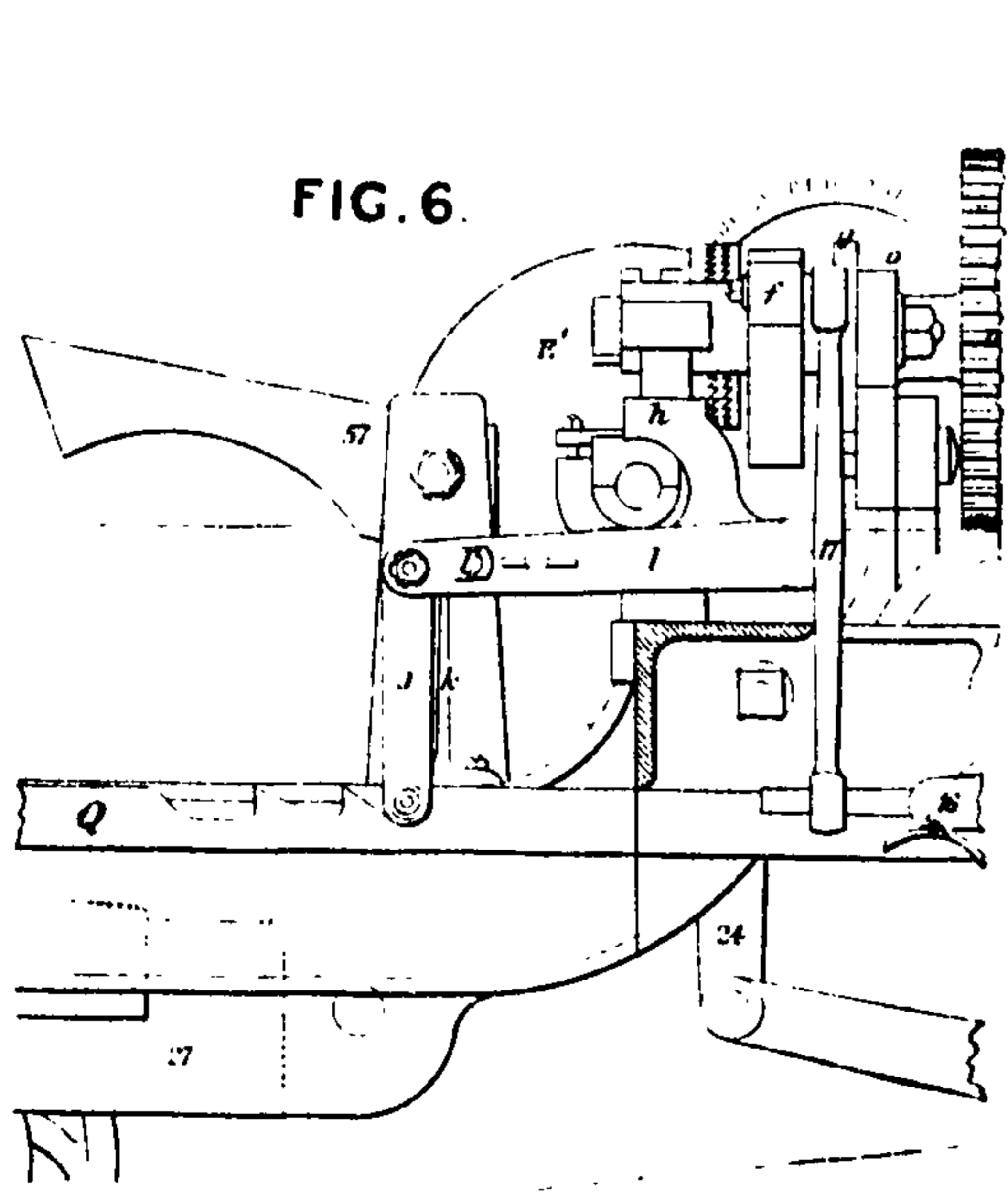
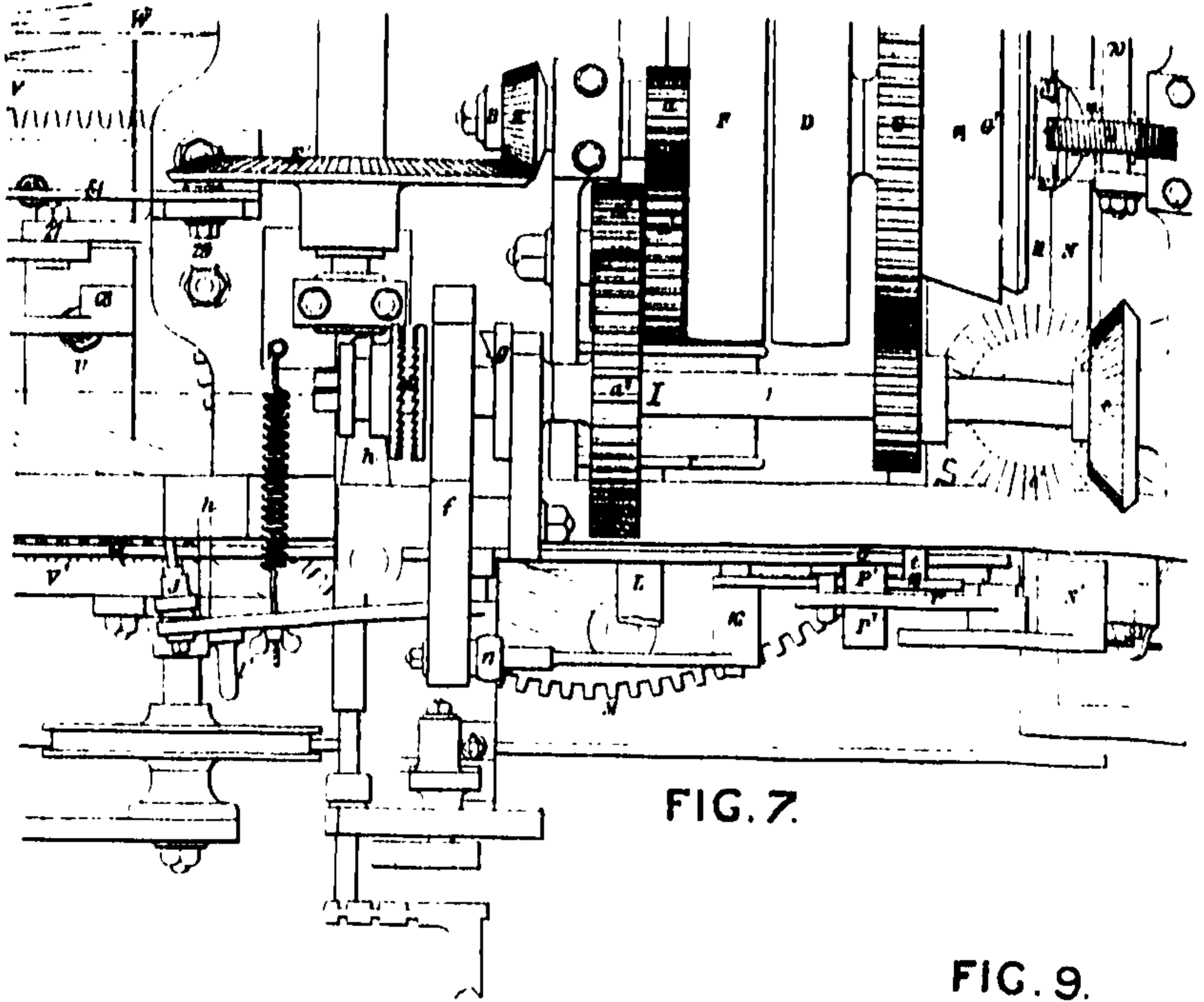
1866. CURTIS v. PLATT, L. J. 35 Ch. 852.

### *Construction—Mechanical Equivalents—Distinction between an Invention and its Object.*

The invention in question in this case related to a portion of the mechanism of self-acting spinning mules. It dealt with a method of effecting certain changes in the action of the mechanism. In it one part of the mule is movable, and travels backwards and forwards, performing certain functions. This part is termed the "carriage," and the whole journey—to and fro—"a stretch." During a stretch other portions of the mechanism had to be put in and out of gear in succession to effect the necessary changes in the operations to be performed. As it was described as "an improvement" on a previous method of *Lakin & Rhodes* (No. 12,805 of 1849), that method is here first given.

Fig. 6 is a portion<sup>1</sup> of the longitudinal elevation of *Lakin & Rhodes's* machine, Fig. 7 a plan, and Fig. 9 an end elevation of the same part. The same letters indicate the same parts throughout. By the operation of other parts of the machine at a certain time, the shaft Q is moved to the right in Fig. 6. In so moving, the incline on which the trigger-catch J rests lifts the lever *i* from the notch of the fixing *k* and allows the spring *l* to put into gear the clutch-box *d* by means of the lever *i* and crank-lever *h*. The left-hand side of the clutch-box slides along the shaft, but is "feathered" to it. The mechanism of the clutch-box is shown in detail in Figs. 13 and 14. To the half which revolves loose on the shaft (right-hand half in Fig. 7) is attached an eccentric boss, which passes through the lever *f*. Through this the pin *e* passes. On the fixing *g* is an incline, against which, when the

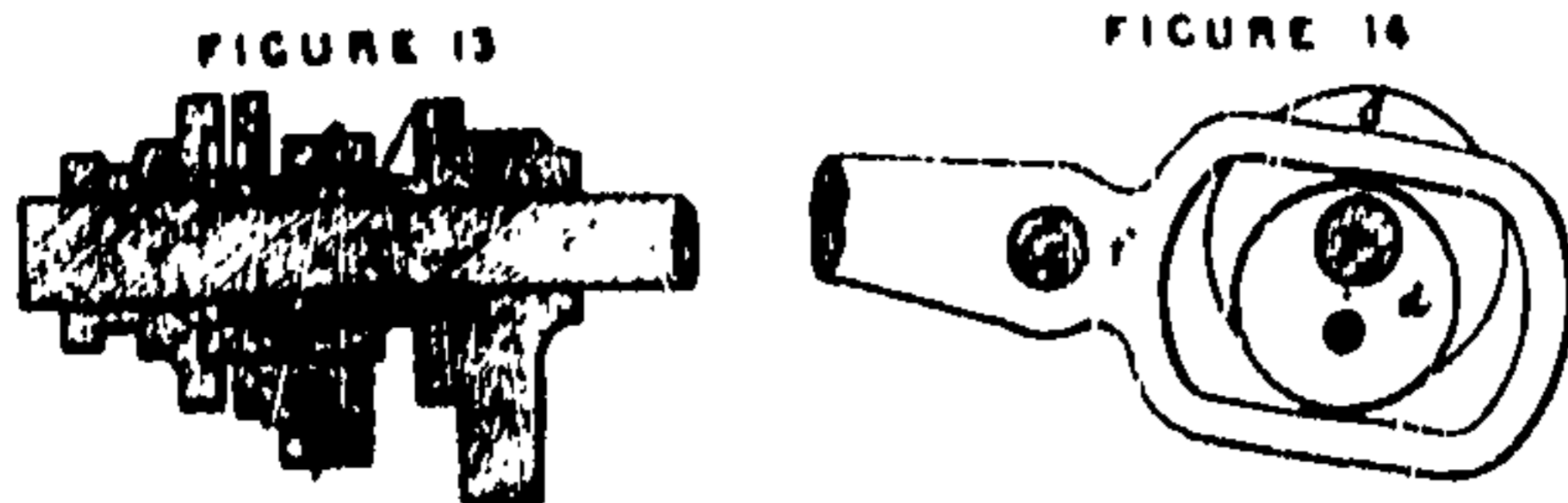
<sup>1</sup> The original figures showed the whole machine; the parts showing the clutch-box mechanism are alone reproduced here, about one-tenth of the whole. Enough is given to show the general nature of the mechanism used.



Portions of diagrams from Takin & Rhodes's specification (No. 12805 of 1849).



clutch-box revolves, this pin is brought, and the incline acting on the pin, forces it outwards (*i.e.* towards the left in figures), and with it the other half of the clutch-box, which slides on the change-shaft I, but is prevented from turning by keys fastened thereon. On putting the mechanism into operation, as above described, the loose half of the clutch-box is carried



From Lakin and Rhodes's specification.

round, and by means of the lever *f* operates by means of another train of mechanism to effect the first change. On further revolution the clutch-box is thrown out of gear, as above described. By this method of effecting the desired result, if three "changes" had to be made in each stretch, the clutch-box completed three revolutions, one for each change effected.

A patent (No. 2393 of 1854) was granted to *J. Wain* for the invention in question, consisting of improvements in certain machines "commonly known as mules and twiners."

The complete specification included the following description<sup>1</sup> :—

The improvements were described as applicable to certain machines, "particularly those constructed with the improvements for which *R. Lakin* and *W. H. Rhodes* obtained Letters Patent," as above. The description of the improvements is given "with reference only to the self-acting mule constructed with the said improvements of the said" *Lakin & Rhodes*, "as any mechanic conversant with such machinery will be able to adapt them to other machines of the kind aforesaid, to which the same may be applicable of whatever suitable arrangement or construction they may be. . . ." "My said invention consists, first, in causing one-half of the catch or clutch-box described . . . in their specification, above referred to, for making the changes in the action of the mule to be connected with and to act upon the cams used for making those changes direct and without the intervention or use of the eccentric boss and rods, levers, and mechanical agents combined therewith and described by them,<sup>2</sup> such catch-box being marked *d* in Figs. 6, 7, 13, and 14 in . . . their specification" above. Secondly, in an improved arrangement for putting the catch-box into gear, and in giving motion to the change-shaft.

"Fig. 1 is a side elevation of part of the headstock of a self-acting mule, exhibiting parts of my improvements as applied thereto; Fig. 2 is a plan

<sup>1</sup> Only so much is given as relates to the first claim, the one in dispute.

<sup>2</sup> The whole complicated train of mechanism is not shown here, but only that relating to putting the clutch-box into gear.

view of the same. Fig. 3 is a section, and Fig. 4 a front elevation, of the disc  $p$ , hereinafter described, shown detached. . . .

"I shall in the first place describe the means by which the first and second parts of my said improvements are performed.

" $a$  is the side of the headstock of the mule, to which are attached the bearings  $b$  and  $b^x$ . The bearing  $b$  supports the hollow shaft  $c$ , on which are cast the cams  $d$ ,  $d$ , and  $d$ . The bearing  $b^x$  supports the solid shaft or 'change shaft'  $e$ ; this shaft fits loosely, and revolves within the hollow shaft  $c$  and partly supports it, and is also partly supported by it and by the bearing  $b$ . The shaft  $e$  derives motion from the wheel  $f$ , which is fastened on it, and is driven by the backing-off wheel  $g$ , shown in Fig. 7, and more fully described and explained in the said specification of the said *R. Lakin* and *W. H. Rhodes*, and which is well understood.  $h$  and  $i$  are the two halves of a catch-box; the half  $h$  is grooved to slide on two feather keys fixed in the shaft  $e$ , which cause it to revolve with that shaft, but leave it loose to slide in and out of gear with the other half  $i$  of the catch-box, which is fastened to the hollow shaft  $c$ .  $j$  is a helical spring, coiled round the shaft  $e$ , and one end of which is fastened to the hoop  $k$  fixed on the shaft  $e$ , and the other end presses against the half  $h$  of the catch-box, tending to force it into gear with the other half  $i$  of the catch-box when required and at liberty, as hereinafter described. Through the boss of the half  $i$  of the catch-box is a hole, in which is placed a loose pin  $a^2$ , somewhat longer than the thickness of the boss, so as to project on one side or the other. The lever  $l$  swivels on the stud  $m$ , fastened in the frame side  $a$ . Near the several ends of this lever are bolted the adjustable tappets  $n$  and  $n^1$ . On the stud  $o$ , also bolted in the lever  $l$ , is the disc  $p$  (shown separately in Figs. 3 and 4), and in which is a slot or opening, sufficiently large to admit the shaft  $e$  to pass through it, and also to admit of the disc being raised and lowered when required, as hereinafter described. On the face of the disc are formed the two projecting inclines  $q$ ,  $q$ . The bell-crank lever  $r$  swivels on the stud  $s$ , fixed on the framing  $a$ , at the end farthest from the delivering rollers. To the lower arm of this lever is attached one end of the spring  $t$ , the other end of which is secured to a bracket on the framing.  $u$  and  $u^1$  are the 'fallers,' attached to and travelling with the mule-carriage in the usual manner. When the machine is put in operation motion is given to the wheel  $f$  by the backing-off wheel  $g$ , which causes the 'change shaft'  $e$  to rotate, and with it the half  $h$  of the catch-box, and also the spring  $j$ . It must be understood that the two halves of the catch-box are now out of gear, the lower projecting incline  $q$  on the disc  $p$  being in contact with the nearer end of the loose pin  $a^2$ , and forcing the other end against the half  $h$  of the catch-box, so as to resist the action of the spring  $j$ . As the carriage traverses outwards the faller  $u$  comes in contact with the bevelled or inclined part of the tappet  $n$ , and thereby depresses the nearer end of the lever  $l$ , by which the disc  $p$  near to the opposite end is raised, and the lower projecting incline  $q$  is thereby removed, and ceases to bear on the end of the loose pin  $a^2$ , and allows the spring  $j$  to act on and push forward the half  $h$  of the



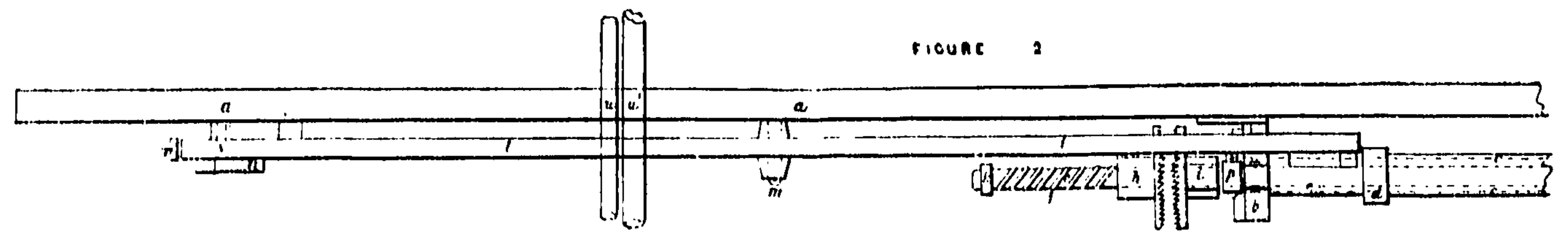


FIGURE 2

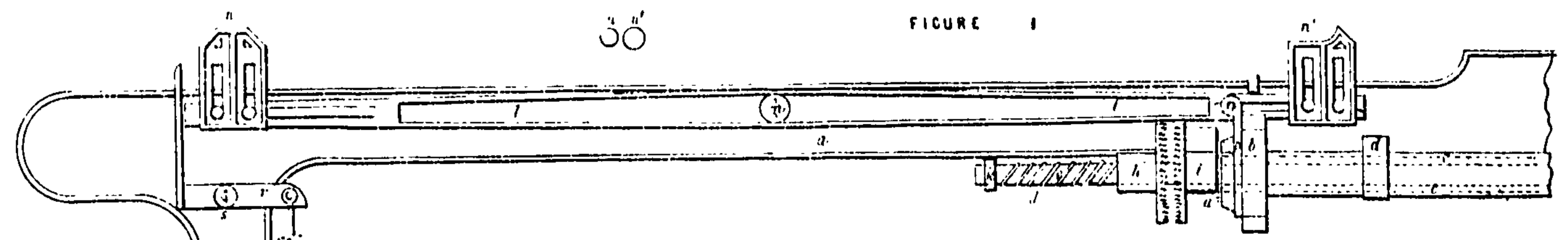
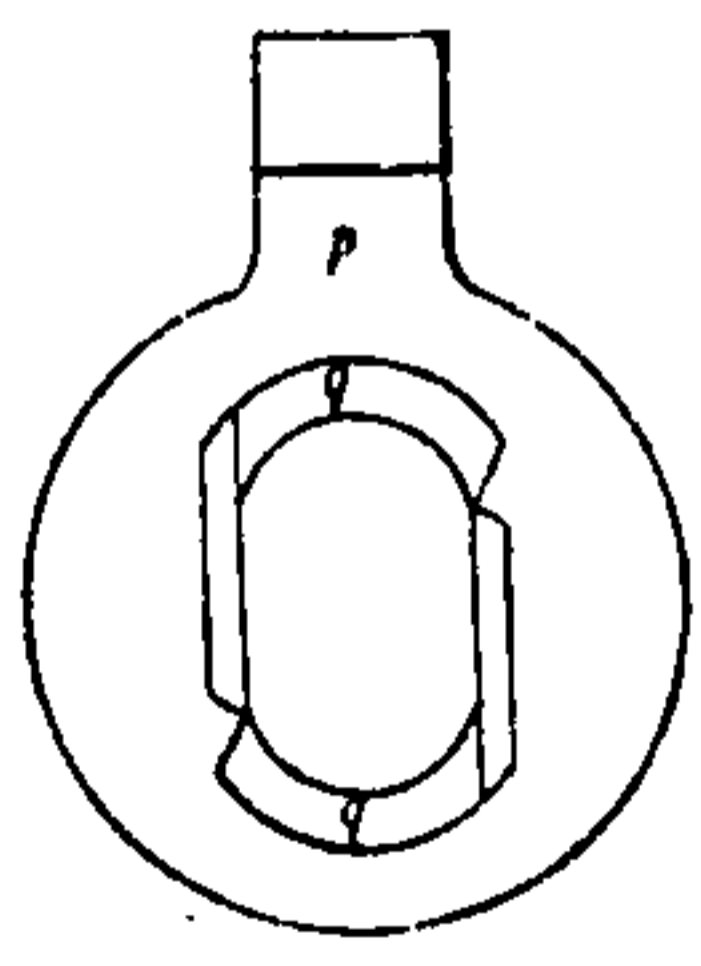


FIGURE 1

FIGURE 3



FIGURE 4



Drawings (Figs. 1 and 2 in part) from Wain's specification (No. 2393 of 1854).

catch-box, which comes into gear with the other half *i*, which takes round with it the hollow shaft *c* half a revolution, thus bringing the cams into action in such manner as is necessary in order to effect the changes then required to be made, and which it is unnecessary to describe, as the successive changes, and the action of the several cams on the parts of the mule, by the intervention of which the changes are produced, are well known to all persons conversant with such or similar spinning machinery. When the shaft *c* has thus made a half-revolution, the end of the loose pin *a*<sup>2</sup> arrives at and is forced back by the upper incline *q* on the disc *p*, and puts the half *h* of the catch-box out of gear with the half *i*, and the revolution of the shaft *c* and its cams consequently ceases. When the 'backing-off' and other necessary operations common to self-acting mules at this stage are performed, the carriage makes its inward traverse, and the faller *u*<sup>1</sup> coming into contact with the bevilled or inclined part of the tappet *u*<sup>1</sup> depresses the near end of the lever *l*, by which the disc *p* is lowered, and the upper incline *q* is removed from and ceases to bear on the end of the pin *a*<sup>2</sup>, which allows the halves of the catch-box again to gear and carry the hollow shaft *c* halfway round, thus completing its revolution, whereby the cams are again brought into action to produce the further changes required. It is to be observed that the spring *t* causes the upright arm of the crank lever *r* always to bear against the adjacent end of the lever *l*, whereby that lever is always retained in the position in which it is last placed by the action upon it of either of the fallers, until its position is changed by the succeeding action upon it of the other faller. . . ."

'The claims were :—

"*First*, the novel construction, combination, and application of mechanism, as hereinbefore described, whereby one-half of the clutch or catch-box hereinbefore and in the said specification of the said *R. Lakin* and *W. H. Rhodes* described, or any mechanical equivalent therefor, is connected with and acts upon cams or other similar parts of mechanism for effecting the changes in the action of the mule or other machine of the description before mentioned, direct and without the intervention or use of such eccentric boss and rods, levers, or other mechanical agents combined therewith, as are described by the said *R. Lakin* and *W. H. Rhodes* in their said specification.

"*Secondly*, the arrangement and combination of the lever *l*, hereinbefore described, and the parts connected therewith, for causing the catch-box, hereinbefore described, to be put into gear; and also the means or mode hereinbefore described of giving motion to the 'change shaft.'

"And, *thirdly*, the means or mode of causing the backing-off friction cones, &c."

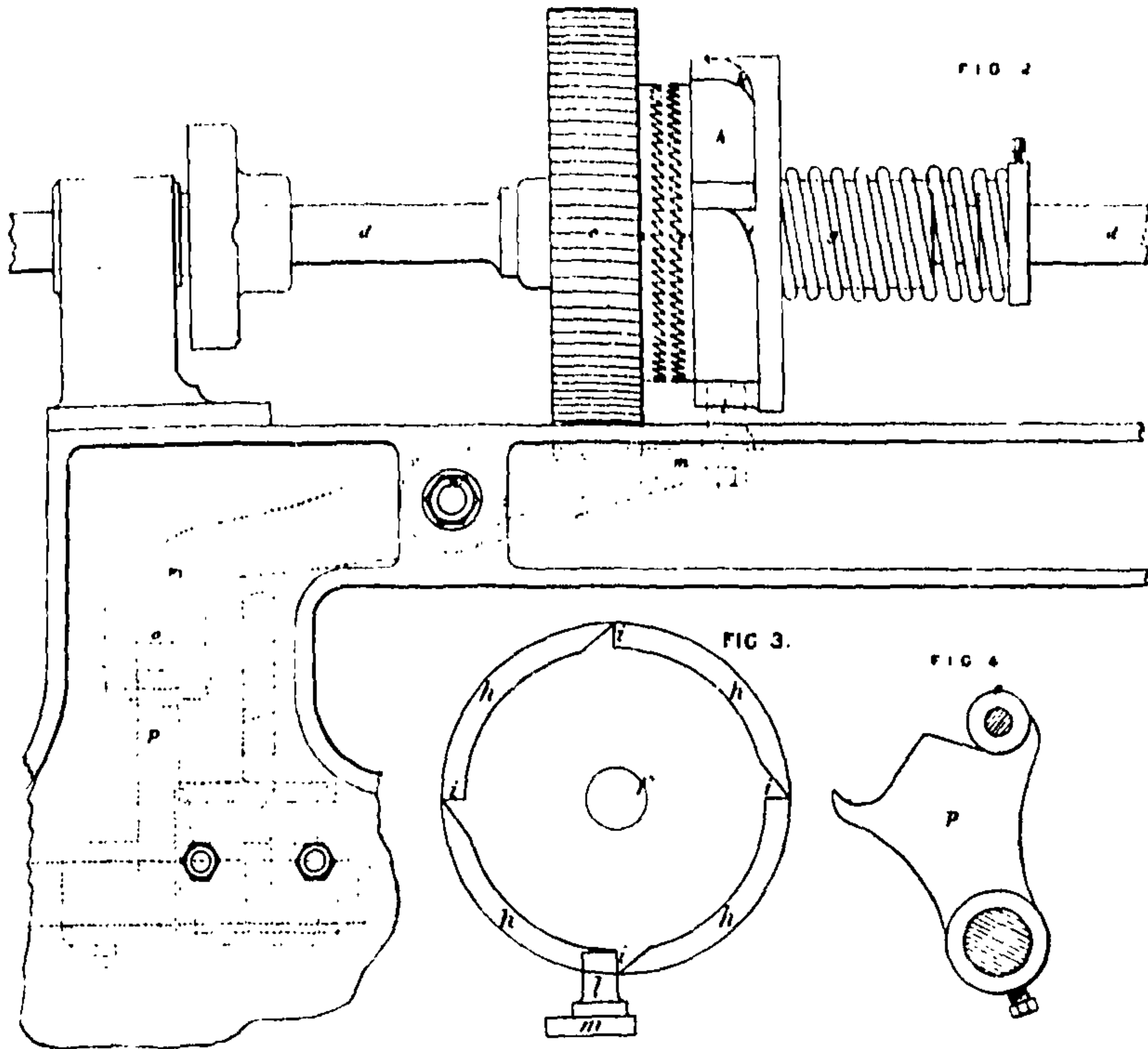
'The difference in the effect of this device as compared with the former was that two changes could be effected by one rotation of the shaft. The means were altogether different, although both made use of the old device of a pin actuated by an inclined plane.

An alleged infringement consisted in a machine made according to *Platt's* specification (No. 922 of 1860).



In it was employed a clutch-box, one part being driven loosely by a toothed wheel (on a parallel shaft on which were the fast and loose pulleys), and the other when caused to revolve gave motion to a cam-shaft, thus effecting the necessary changes. It differed from the preceding in its functions and operation, since the number of changes were regulated by recesses on a wheel or disc. It was constructed and worked as follows:—

“ Fig. 1 represents <sup>1</sup> in plan view so much of a headstock as is necessary to illustrate the improvement, and Fig. 2 is an elevation thereof. The usual



Portions of diagrams from Platt's specification (No. 922 of 1850).

shaft upon which the fast and loose pulleys are placed is shown at *x*” (Fig. 1); “ upon this shaft is fixed a toothed wheel *b*” (Fig. 1), “ taking into another, *c*, mounted loosely upon the cam or self-acting shaft *d*; this wheel revolves constantly, and carries upon its face one half of a clutch-box *e*; a corresponding half, *e*\*, is capable of sliding upon the shaft *d*, but is caused to revolve therewith by means of the usual disc and pins employed in apparatus of this description; connected to this half of the clutch-box is a plate, *f*,

<sup>1</sup> Fig. 1 is omitted here. It merely showed the connection whereby the wheel *c* was driven, with a plan of the whole.

forced forward by means of a spring, *g*, so that it may, when at liberty to move, cause the part *e*\* to be brought into gear with the part *e*; upon its face are formed a number of recesses, *h*, corresponding to the number of changes required, which recesses are bounded by radial lines, *i* (see Fig. 3), leading towards which are inclines, *k*; within the recesses *h* is situate at intervals a pin, *l*, mounted upon a lever, *m*, *m*\*, which turns upon a centre at *n*; the end *m*\* of this lever carries a bowl, *o*, resting upon a tumbler, *p*, shown detached at Fig. 4. The operation is as follows: According to the position shown, the clutch-box *e*\* has been disconnected (by means which will be understood when the next movement is described), and is prevented from being brought into gear through the spring *g*, by reason of the part *k* bearing against the pin *l*; the wheel *c* is therefore revolving separately, and no motion is communicated to the cam-shaft *d*; but when the time shall have arrived for a change to take place, the carriage (I will now suppose) arrives in contact with the tumbler *p*, which being thus caused to turn over upon its centre of motion, will elevate the bowl *o*, and effect a turning of the lever *m* upon its centre *n*; this operation will withdraw the pin *l* from the recess *h*, and the plate *f* being thus liberated will be forced forward by the spring *g*, so as to effect a gearing of the clutch-box *e*, *e*\*, and the cam-shaft will then be caused to revolve. Immediately upon the tumbler having passed the centre line, the bowl *o* will again descend, so as to allow the lever *m* to return to its former position, and bring the pin *l* into the recess *h*, next to that which it previously occupied. The plate *f* now revolving will bring one of the inclines *k* into contact with the pin *l*, which, acting as an abutment, will cause the said plate and its clutch, *e*\*, to slide upon the shaft so as to disconnect it from the driving power, and the radial line *i* will act as a stop for securing a correct position of the cam-shaft; in like manner the return motion of the carriage will restore the tumbler *p* to the position shown, and another change will be effected precisely as above described.

“I have mentioned but two changes, and those as derived from the running in and out of the carriage; . . . and it will be evident to all competent mechanics that other changes required may be derived from the faller or other ordinary part, &c.”

A suit in Chancery was instituted to restrain the infringement of *Wain's* patent. The alleged infringement consisted of a machine made according to *Platt's* specification.

Evidence was also given of an earlier machine of *Roberts's* to achieve the same ultimate result.

There were five issues before the Court; (1) whether the invention was new, or (2) a “manufacture”; (3) the sufficiency of specification; (4) utility; and (5) infringement.

The learned judge, *Wood*, V.C., found the first four issues in favour of the plaintiffs, and the fifth in favour of the defendant.

He examined and described in his judgment the earlier contrivances in detail, and continued: “Accordingly that which *Roberts* effected by a totally different mode, namely, the spaced pulley and the other pulley,



*Wain* has effected through the scheme apparently first suggested by *Lakin & Rhodes* by the pin operating through the medium of the inclined plane. But he has achieved the separation and union of the two shafts once during the course of the rotation; and they do not separate in effect at the end of each rotation, but separate twice in the course of the stretch, and twice in the course of rotation of the instrument. That appears to me entirely different from *Roberts's*, and, of course, from anything in *Lakin & Rhodes's*. No one would pretend to say that it is the same thing, . . . and I think myself the invention is clearly and distinctly new, as far as regards the invention itself.<sup>1</sup>

“Then the question is: How far has *Wain* used this in his patent? And this is a very important part of the inquiry—as to what extent he can claim a patent right in respect to this invention. And before, therefore, reading his patent, I would say a very few words as to what my conception of the patent law is with reference to the right of an inventor to claim a patent right in respect of his discovery. In all discoveries there are two things—there is an object to be achieved, and a means of achieving that object. Now, the object to be achieved may be as old as possible, of course; hundreds of patents may be taken out for achieving objects which themselves have been, since the history of mankind, achieved by some means or other. No novelty is required as to the object. The novelty must be in order to found a right to a patent, in the means for effecting a particular object, be it old in itself or new. . . .

“Where the thing is wholly novel and one which never has been achieved in any possible way before, the machine itself which is invented necessarily partakes of a great amount of novelty in all its parts; and one looks very narrowly and very jealously upon any other machines for effecting the same object to see whether or not they are colourable contrivances for evading that which has been before done. When the object itself is one which is not new, but the means only are new, one is not inclined to say that a person who invents a particular means of doing something that has been known to all the world long before has a right to extend very largely the interpretation of those means which he has adopted for carrying it into effect. Because, otherwise, that would be to say that the whole world is to be precluded from exercising its invention for achieving some desirable and well-known object which everybody has had in view for years and years before.<sup>2</sup> . . . Of course, as I have stated, no patent can be taken out for effecting a new object, but only for effecting it by new means.” The learned judge commented on the words in the claim, “or other mechanical equivalent,” and pointed out that they were wholly useless and had much better have been omitted. “It comes simply to this: if you claim anything which is a mechanical equivalent in the largest sense, your patent must be

<sup>1</sup> The judgment after this continues as reported in 3 Ch. D. 136 n.

<sup>2</sup> Referred to in order to show that where the result is old the specification should be more narrowly looked at. *Murchland v. Nicholson*, 10 R. P. C. 423.

too large.<sup>1</sup> . . . If it is simply a mechanical equivalent, or a chemical equivalent, as the case may be, for doing the same thing without the slightest degree of invention on the part of the person who substitutes it, or any benefit whatever to be derived from the apparently new mode, but really the same mode of effecting the object in question, the patentee would get the advantage just as well without the insertion of those words as if he had inserted them."

The learned judge discussed the language of the specification and first claim, and continued: "He only claims that particular mechanism for joining a clutch-box, or any mechanical equivalent therefor, as being more direct, upon the shaft that effects the changes." The learned judge then referred to the case of *Seed v. Higgins* (*ante*, p. 212), and dealt with the question of infringement.

The plaintiffs appealed to the Lord Chancellor on the fifth issue, and the defendants on the other four.

The Lord Chancellor dismissed the plaintiffs' appeal; the cross appeal was then dismissed by consent.

The Lord Chancellor (Lord *Westbury*) commenced his judgment with a statement of the objects to be achieved by the devices described above, and contrasted the various means to effect those objects adopted by *Roberts, Lakin & Rhodes, Wain, and Platt*. "But it is only essential to mark that all the elements that we find in the subsequent combinations are noted in the original patent of *Lakin & Rhodes*—the clutch-box as a means of checking the rotation of the shaft—that being effected by the opening and shutting of the clutch-box, and the operation of the plane with an incline, and a movable pin traversing it in order to effect the operation of opening and shutting the clutch-box." . . . "Mr. *Wain* . . . applied himself to the construction of what he himself denominates 'an improvement upon the patent of *Lakin & Rhodes*.' . . . He himself has described it, and sought protection for it in the character of an improvement. He speaks of it as something supplemental to the original patent, and the language of his patent is such, and the effect of the patent is such, that, without the licence of the original patentees, of *Lakin & Rhodes*, it would not be competent for Mr. *Wain* to have the benefit of his invention until the natural life of the invention of *Lakin & Rhodes* had expired." . . . "The mechanism that Mr. *Wain* describes is the proximate means of making the clutch-box operate for the purpose of making a break in the rotation of the shaft; it is nothing in the world, therefore, more than a particular means for effecting a given result, and that being so, I cannot but think that, in patents of this description, the doctrine of mechanical equivalents is not by any means applicable. The thing itself is nothing in the world more than a particular agent for attaining a certain end, and if Mr. *Wain* was entitled to a patent for the

<sup>1</sup> The reason a wide interpretation was not given to the term "mechanical equivalents" was that the patent would not then be valid. Per *Kennedy, J.*, in *Parkinson v. Simon*, 11 R. P. C. 254.



particular agency by which he effected in a more convenient manner the opening and shutting of the clutch-box, any other person is, on the same principle, entitled also to a patent for the means of effecting the same result, provided those means are not a colourable imitation, or a colourable evasion, of Mr. *Wain's* patent; or provided those means do not embody Mr. *Wain's* patent with an improvement."

The learned judge then dealt with the operation of *Wain's* invention in detail, comparing its action with that of *Lakin & Rhodes*. "Now, I consider, therefore, the pin, the incline, and a plane with inclines upon it, to be common elements out of which any inventor was at liberty to make or construct a machine at the time when *Wain's* patent was granted, and of necessity, therefore, at the time when *Platt's* was granted."

The learned judge then examined and discussed the mode of operation of *Platt's* machine.

"My conclusion, therefore, upon the whole of the case has been this: I have anxiously considered it, because it is extremely desirable, most particularly desirable, that when a beneficial idea has been started by one man he should have the benefit of his invention, and that it should not be curtailed and destroyed by another man simply improving upon that idea; but if the idea be nothing in the world more than the discovery of a road to attain a particular end, it does not at all interfere with another man discovering another road to attain that end, any more than it would be reasonable to say that if one man has a road to go to Brighton by Croydon, another man shall not have a road to go to Brighton by Dorking.<sup>1</sup> They are the roads and means of attaining the end, and unless you can prove that one is a colourable imitation of the other, or unless you can prove that one bodily incorporates the other with merely an addition, it is impossible to say that they shall not be co-existent subjects of contemporaneous patents."<sup>2</sup>

On appeal to the House of Lords by both parties, the question of infringement alone was argued, as before the Lord Chancellor (Lord *Westbury*), and the appeal dismissed. The cross appeal was dismissed by consent.

The Lord Chancellor (Lord *Chelmsford*) gave an exhaustive judgment in which the following passages occurred:—

35 L. J. Ch. 867: "To ascertain what is the invention which the patentee complains has been infringed, his specification must necessarily be referred to, and the construction of that specification, like that of every written document, must be the office of the Court, assisted by any explanatory evidence which may be necessary. The alleged infringement by a defendant must be a pure question of fact, because it altogether depends upon whether what has been done amounts to an invasion of the plaintiff's patent." His lordship then entered into a detailed examination of the two machines,

<sup>1</sup> This passage has been frequently quoted in argument as being the expression of a proposition of law, and by *Pearson, J.*, in *Badische Anilin und Soda Fabrik v. Levinstein*, 2 R. P. C. 91.

<sup>2</sup> Quoted with approval by Lord *Watson* in *Miller & Co. v. Clyde Bridge Steel Co.*, 9 R. P. C. 479.

*Wain's* and *Platt's*, and discussed the question of colourable evasion, and continued (p. 869): "Comparing both machines together as entire combinations, it appears not only that the several parts of the defendant's machine are different from the plaintiff's, but that the combined action of these several parts is different. This is exhibited in a very striking manner by the working of the two machines" (*i.e.* plaintiff's two changes as compared with defendant's four). . . . "Upon a question of combination, the action of two machines with differently disposed parts, differing so materially from each other in their different effects, almost necessarily leads to the conclusion that there must be a substantial difference between them."<sup>1</sup>

Lord *Cranworth* considered in detail the action of the two machines, and continued (p. 871): "In spite, however, of the resemblances, I have satisfied myself, in conformity with the judgments of *Wood*, V.C., and Lord *Westbury*, that the appellant has failed to establish his ground of complaint. In the first place, neither of these parties can claim against the other the right to an exclusive use of a clutch-box as a means of communicating intermittent action to a rotating shaft."

At p. 873: "It is important to consider exactly what it is which *Wain* is entitled to claim as his invention. He cannot claim the application of a clutch-box as the means of effecting the changes required during the stretch. That had been discovered and patented by *Lakin & Rhodes*. He cannot claim the disc with a pin and an incline, as the means of opening and shutting his clutch-box. That was a mechanical contrivance well known and in frequent use, and was in fact used by *Lakin & Rhodes*. His invention consisted in placing cams on the hollow shaft, and in arresting their rotation twice during its revolution by means of the disc with the two inclines and stops, to which a vertical motion is given by the rising and falling of a lever connected with it."

At p. 874: "It was said that *Wain* claims, not only his own specific mechanism, but also 'any mechanical equivalent therefor.' And every part of *Platt's* machine is, it is said, if not identical with, at all events only a mechanical equivalent for *Wain's* machinery. There are, however, two answers to this argument; in the first place, the *claim as to mechanical equivalents, according to the fair construction of the specification, obviously relates only to the clutch-box*; and, secondly, the principle which protects a patentee against the use by others of mechanical equivalents is inapplicable to a case like the present, where the whole invention depends entirely on the particular machinery by means of which a well-known object is attained."

### Notes.

The foregoing case is to be distinguished from that of *Proctor v. Bennis* (*post*, p. 305), because the whole machinery of which the invention formed a part was old, and the mechanical result intended was old. "The only

<sup>1</sup> The difference of functions performed by the respective parts constitute a difference in the machines.



novelty which there could be claimed would be the application and use of certain mechanical means in order to produce in a known machine the same result which in that known machine had been produced by other mechanical means": per *Cotton, J.*, in *Proctor v. Bennis*, 4 R. P. C. 354 (*Bowen, L.J.*, p. 359). A broad distinction was drawn by Lord *Hatherley* in his judgment above between old and new objects: per *Fry, L.J.*, p. 361.

This distinction between old and new results was observed also in *Ticket Punch Co. v. Colley's Patent, &c.*, 12 R. P. C. 183, 185, which has been frequently quoted in subsequent cases.

*Curtis v. Platt* has been followed in *Nettlefolds v. Reynolds*, 9 R. P. C. 299.

1866. JORDAN v. MOORE, L. R. 1 C. P. 624; 35 L. J. C. P. 268.

*Construction of Specification and Claims—Claim too wide.*

The invention was for certain improvements in the construction of ships. The first improvement, as described, consisted in a suitable iron frame, of any shape or kind of iron, to which an external covering of timber planking for the sides, bilges, and bottoms was to be fastened by means of rivets, bolts, or other suitable fastening. There were four more improvements described, and the sixth described the construction of a particular iron frame adapted to the timber external planking for sides, bilges, and bottoms.

The *first* claim was for "the construction of ships with an iron frame, combined with an external covering of timber planking for the sides, bilges, and bottoms." The *sixth* was for "the construction of iron frames for ships adapted to an external covering of timber planking for the sides, bilges, and bottoms, as described."

*Held*, that the first claim must be read to include all iron frames, and was not confined to that described in the sixth improvement; and that the case came within *Harwood v. G. N. Ry. Co.*, there being no invention in the first claim.

**Notes.**

In *Arnold v. Bradbury*, L. R. 6 Ch. Ap. 712, Lord *Hatherley, L.C.*, treated this case as an example of one claim showing that another must be read in a wide sense; and that the latter covered ships made before the patent.

It was pointed out by *Kay, L.J.*, in the *Edison Bell Phonograph Corporation v. Smith & Young* (11 R. P. C. 400) that the two claims above could never be suggested to refer to the same thing, and that, contrasting them, it was obvious the first referred to any kind of iron ribs.

1866. SIMPSON & CO. v. HOLLIDAY, L. R. 1 H. L. 315.

*Construction—Insufficiency—Utility.*

In 1860 a patent (No. 126) was granted to *H. Mellock* for "improvements in the preparation of red and purple dyes."

The provisional specification was filed. The complete specification, which was almost *verbatim* identical with the provisional, was as follows:—  
 "I mix aniline with dry arsenic acid, and allow the mixture to stand for some time, or I accelerate the operation by heating it to or near to its boiling point until it assumes a rich purple colour, and I then mix it with boiling water and allow the mixture to cool; when cold it is filtered or decanted. The aqueous solution which passes through the filter contains a red colouring-matter or dye, while a tarry substance remains on the filter; this tarry substance, dissolved in alcohol, methylated spirit, or other suitable spirit, furnishes a purple dye. These solutions of colouring-matter may be used at once in the process of dyeing, concentrated or diluted according to the tints required. The mixture of aniline and arsenic acid, after being heated, may be allowed to cool, and then forms a paste, which may be preserved. When required for use it is mixed with boiling water and heated as above described."

"I have found that the proportion of two parts by weight of aniline to one part by weight of arsenic acid yields a good result, but I do not confine myself to that proportion, as it admits of variation." The claim was for: "The manufacture or preparation of red and purple dyes by treating aniline with arsenic acid, as hereinbefore described."

The plaintiffs were assignees of the above patent.

The issues of validity and infringement were tried by *Wood*, V.C., without a jury.

It was admitted that the process described in the first words of the specification, of mixing the ingredients and allowing "the mixture to stand for some time," would not do; the application of heat was necessary to produce the combination required.

It was proved that no person was misled by the statement, because on finding that combination did not take place, one would at once naturally apply heat. Also it was found that "dry arsenic" of commerce meant arsenic physically dry, and not the "anhydrous," which latter would not produce the required result; and that "anhydrous" acid was not an article of commerce. Also that pure aniline would not do, but the aniline of commerce containing toluidine would do.<sup>1</sup>

<sup>1</sup> At the date of the patent the old chemical notation was in use. The "hydrated acid" is  $H_3AsO_4$  in the modern notation. When physically dry it contained some water of crystallization. The "anhydrous acid" spoken of at the trial is the pentoxide  $As_2O_5$ , produced by expelling the H from the  $H_3AsO_4$  with sufficient O to form water. In the process described



*Held*, by *Wood*, V.C., that the patent was valid, and the defendant had infringed.

On appeal to the Lord Chancellor.

*Held*, by Lord *Westbury*, L.C., that the cold process, as described, was distinct from the hot, and that the patent was therefore invalid; that "dry" was not synonymous with "anhydrous," and that that objection to the patent failed<sup>1</sup> (12 L. T. 99).

On appeal to the House of Lords.

It was argued *inter alia* that as questions of fact were involved in relation to the necessity of heating, and as to the properties of "dry arsenic acid," there must be a new trial.

*Held*, that as the cold process was admitted to be useless, the patent was void in law.

Lord *Chelmsford*, L.C. (p. 320): "The construction of a specification, like other written documents, is for the Court. If the terms used require explanation, as being terms of art or scientific use, explanatory evidence must be given, and with its aid the Court proceeds to the office of construction.<sup>2</sup> In this there is no necessity for any scientific evidence, as there can be no doubt of the meaning of the language used by the patentee."

### Notes.

In the *United Horse Nail Co. v. Stewart*, 2 R. P. C. 132, the foregoing case is quoted as an example of a patent being held invalid because, of two processes given, one was a failure.

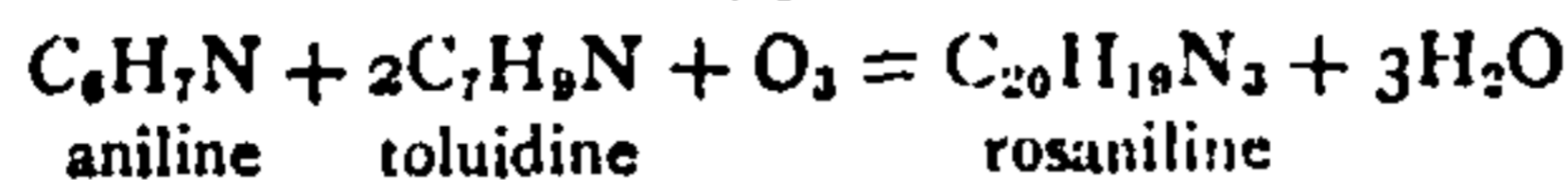
In *Edison & Swan v. Holland*, 6 R. P. C. 282, *Cotton*, L.J., pointed out that a specification need not point out and warn against all the errors a workman might make; but must be so clear as to leave him nothing to find out or discover.

1871. CANNINGTON *v.* NUTTALL, L. R. 5 H. L. Ca. 205.

#### *Construction—Combination—Parts old and disclaimed.*

In 1866 a patent (No. 1297) was granted to *A. Pocheron* for an invention for "improvements in the manufacture of glass," and was described in the amended specification in the following terms<sup>3</sup>:—

the "arsenic acid" acted as a strong oxidizing agent. The oxidation of the aniline and toluidine (present in the aniline of commerce) produced rosaniline, thus—



Where the oxidizing agent is arsenic acid, there resulted arsenite and arseniate of the base rosaniline which formed the dyes in question.

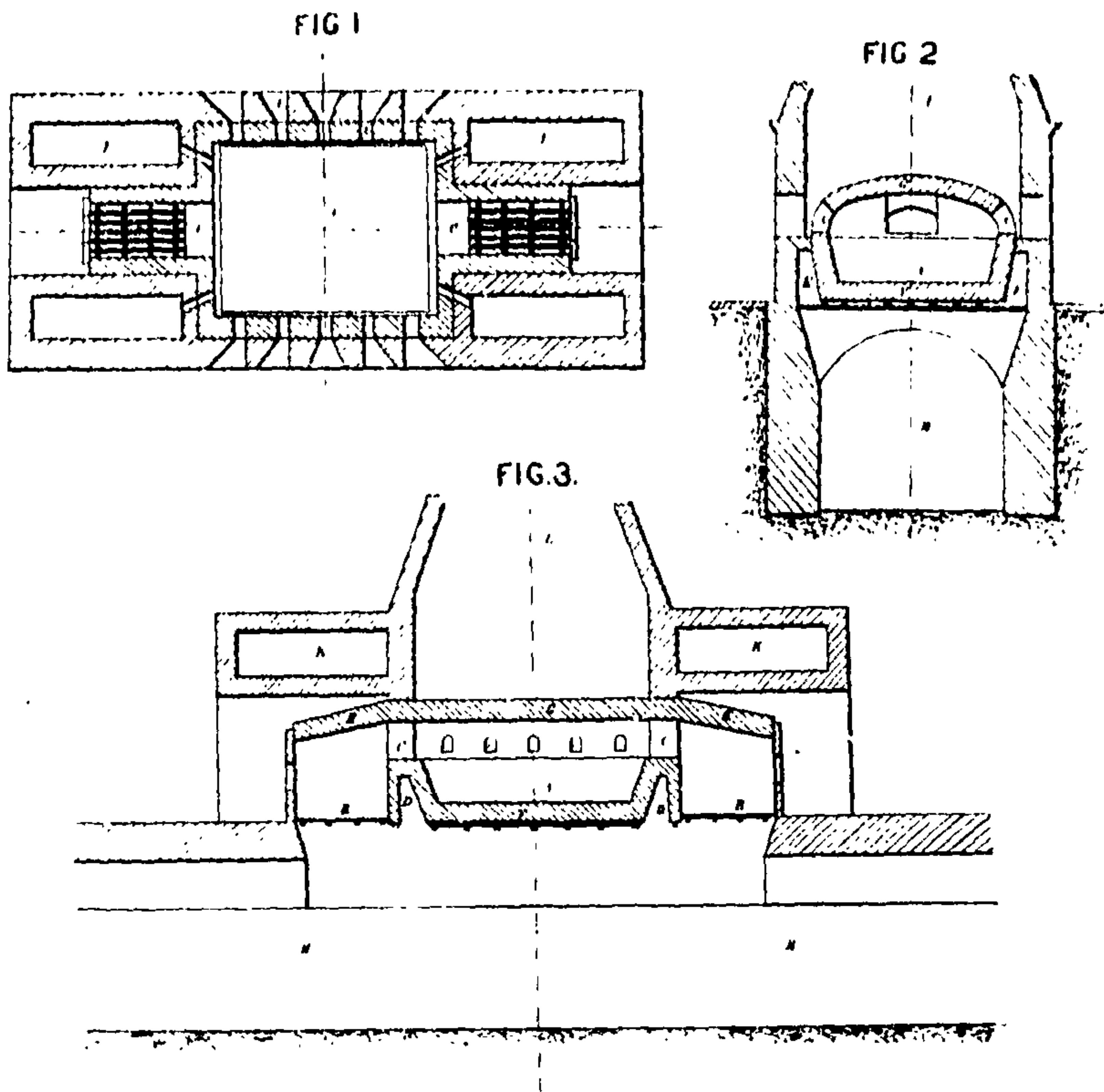
<sup>1</sup> Lord *Westbury* pointed out that this case was an example of a patentee losing a patent for a valuable discovery by not availing himself of the opportunity of making experiments during the six months which elapsed before the time allowed for filing the complete specification; the provisional and complete specifications were here practically identical.

<sup>2</sup> Quoted and followed by *Kay*, J., in *Edison & Swan v. Holland*, 5 R. P. C. 475.

<sup>3</sup> The original diagrams showed more of the chimney.

" My improvements relate to the melting or fusing furnaces or kilns used in glass-making, and have reference to the suppression of the fire-clay pots or crucibles hitherto in use, and to placing the materials to be fused or melted within the furnace itself, the usual inner form of the lower part of which is modified by doing away with the sieges or banks and the general levelling of the bottom, to which separately I make no claim, but according to my invention the lateral sides are constructed of a hollow form in such-wise that a current of refrigerating or cooling air may be made to circulate around and prevent any excessive heating of the sides which are to retain or enclose the materials in fusion.

" My improvements will be thoroughly understood by reference to the accompanying Sheet of Drawing, on which Fig. 1 represents a plan view



Diagrams from Pocheron's specification (Figs. 2 and 3 in part), No. 1297 of 1866.

of my improved furnace or kiln taken at the height of the working-holes; Fig. 2, a transverse section; and Fig. 3, a longitudinal section.

" A indicating the basin or tank which is to contain the materials in fusion; B, gratings and fireplaces; C, sills between the basins and the gratings; these sills are made by the aid of two fire-brick walls separated



at their base and united at their summits, so as to establish between them a vacant space D, which is to serve for the current of refrigerating air; E, free space passing all round the basin or tank between the exterior walls and the inner walls or sides of the basin, and communicating with the space D between the sills for the circulation of cold air; F, bottom of the basin supported by ironwork; G, crown or arch of the furnace; H, arch of the tunnels or fireplaces; *i*, working-holes; *j*, annealing kilns; K, arches with gratings; L, chimney; M, underground compartments or cellars.

“In making plate glass the metal is run on to the table in the following manner: The table or tables are brought on rails successively to the furnace, in the side of which an opening or hole has been left, which hole is closed with clay or other adhesive material during the fusion, and opened for running the metal on to the table, after which it is again closed, and so on for each operation. The metal being run on to the table is spread in the usual manner. For other descriptions of glass this hole or opening is dispensed with, the usual working-holes only being used.”

The specification then concluded with a description of the advantages (which were great) and the results produced by the new kiln.

There was no formal claim, but the amendments were prefaced by the following disclaimer: “I have been advised that the specification may be held to claim generally the suppression of the fire-clay pots or crucibles hitherto in use in glass-making, and the placing the materials to be fused or melted within the furnace itself, and as I do not wish to retain, or make any such extended claim to invention, but desire to limit my claim to the forming the sides of the tank or chamber containing the glass-making materials hollow in suchwise that a current of refrigerating air may circulate and prevent any excessive heating of the sides which retain or enclose the fused materials, I for this reason wish to disclaim, &c.”

A bill was filed in Chancery by the plaintiffs, Messrs. *Cannington*, praying an injunction against infringement of the above patent. An issue as to facts was directed to be tried, and was tried before Lord *Romilly*, M.R., and a special jury.

It was proved at the trial that before the invention the flint was melted in pots or crucibles placed on sieges or benches in the furnaces. These were turned from time to time to prevent the pot from becoming overheated and allowing the molten glass to escape; molten glass frequently, on the pot being turned, congealed and closed up the pot again. Tanks had been tried before and heated from the outside. The circulation of atmospheric air had been known and used to keep cool the outer parts of puddling furnaces. By the patentee's arrangement the fire was placed at the sides so as to heat the flint from the top; the circulation of atmospheric air kept the tank cool, so as to prevent its breaking, or to cure the defect by self-sealing with the molten glass. Not only were the several parts of the invention—removal of pits, use of tank, and air-circulation—old, but the two former were expressly disclaimed in the specification, as above.

The jury found that the invention was novel, and the specification sufficient.

Motion for a new trial refused by Lord Romilly, M.R.

Appeal to Giffard, L.J. Appeal allowed (*inter alia*) on the ground that it was a misdirection to tell the jury that "the claim to each and every part of the actual combination mentioned in the original specification is still preserved," and not to tell them "that all the world had a right to use the combination of the fireplaces and tank and cave, without the hollow sides, and that the addition to them of the hollow sides as described was the subject-matter of a patent."

On appeal to the House of Lords.

*Held*, that the specification described an invention of a combination of the old things and methods, and constituted a claim for the combination only, which was subject-matter for a patent.

Lord Hatherley, L.C. (at p. 216): "With every new invention, the skill and ingenuity of the inventor are shown in the application of well-known principles. Few things come to be known now in the shape of new principles, but the object of an invention generally is the applying of well-known principles to the achievement of a practical result not yet achieved. And, I take it, the test of novelty is this: Is the product which is the result of the apparatus for which an inventor claims Letters Patent effectively obtained by means of your new apparatus, whereas it had never before been effectively obtained by any of the separate portions of the apparatus which you have now combined into one valuable whole for the purpose of effecting the object you have in view? . . . This desirable end of avoiding the pots and removing the sieges and getting rid of the difficulties arising therefrom, had not been effectively obtained until this gentleman hit upon this ingenious mode of achieving the object by this invention. It appears to me that there is a fallacy in saying that because you disclaim the invention of these particular things, and you thereby (as the Lord Justice expresses it) throw them all open to the public, that therefore, when you, by means of an ingenious invention, bring all these known ideas into one valuable and useful combination by a certain application of a cooling process, you are only to be credited with the cooling process. The cooling process may be applied to anything else—it has been applied to iron and to everything else in the world. Here the cooling process was applied to this combination for a particular purpose and by particular means."

### Notes.

*Cannington v. Nuttall* establishes a principle of law of the highest authority: per Lord Halsbury, L.C., in *Vickers v. Siddell*, 7 R. P. C. 302.

<sup>1</sup> This passage is quoted as authority in *Pirrie v. York St. Flax Spinning Co.*, 10 R. P. C. 37.



1872. MURRAY v. CLAYTON, L. R. 7 Ch. Ap. 570.

*Subject-matter—Anticipation a Failure.*

The invention consisted of a machine in which lengths of portions of clay were cut off by means of vertical wires capable of moving to and fro; the lengths of clay thus cut off were then, by a movable platform, pushed against and past fixed wires, which cut the lengths of clay into bricks. The claim was for "the arrangement and construction of parts herein set forth for cutting clay into bricks. I claim particularly cutting the clay into the form of bricks, by forcing the clay forwards, by means of a pushing-board, or otherwise, against a series of fixed wires, so arranged that the clay is pushed or forced past the wires on to a movable board provided with handles, so that twelve or any other convenient number of bricks may be removed at the same time."

An alleged anticipation was set up of a machine constructed on similar lines, but which was a failure, and never came into practical use.

The judge at the trial held that the several means employed and the result were all old, that the specification did not indicate the novelty claimed, and that the patent was consequently invalid.

*Held*, on appeal,<sup>1</sup> that the claim was for the whole machine,<sup>2</sup> which enabled the workman to make the bricks with one turn of a handle, ready to be removed for drying; that the alleged anticipation, being unworkable, could not invalidate the subsequent patent for the entire machine.<sup>3</sup>

1876. HARRISON v. ANDERSTON FOUNDRY Co., 1 App. Ca. 574;  
3 Ct. Sess. (4th Series), 55.

*Construction—Combination Claim—"New" and "Old."*

A patent was granted (No. 3310 of 1868) to Q. and J. Whyte for "improvements in looms for weaving."

The complete specification commenced in the following terms:—

"Our said invention consists in new or improved simple and most efficient modes of and arrangements of mechanism *for actuating*<sup>4</sup> *the set or sets* of 'compound' or 'multiple' shuttle-boxes of looms, *for weaving* striped, checked, and other ornamental or figured fabrics, requiring two, three, or more shuttle-boxes and shuttle in each set.

<sup>1</sup> The Court followed *Crane v. Price* (*ante*, p. 195) in holding that this was invention (p. 584); and Kay, L.J., in *Lyon v. Goddard*, 10 R. P. C. 346, based both cases on the proposition in *Crane v. Price*, as stated (*ante*, p. 196).

<sup>2</sup> See also *Clark v. Adie*, L. R. 10 Ch. Ap. 675, where this decision was acted on.

<sup>3</sup> This proposition was adopted and followed in *Haslam v. Hall*, 5 R. P. C. 19, and *Lyon v. Goddard*, 10 R. P. C. 134.

<sup>4</sup> The italics are introduced by the author, merely to call attention to the more important points.

" Fig. 1 on Sheet 1 of the accompanying two sheets of drawings<sup>1</sup> is a side elevation of sufficient of a main side frame and the other parts of a three shuttle box check, and other stripe weaving power loom of an ordinary type or form, otherwise than having a modification or construction and arrangement of the *two main parts contained under or forming our said invention*, namely, the *check shuttle-box moving mechanism* (indicated by numbers 1 to 35) and *the pattern mechanism* for these or other checks or compound shuttle-box mechanism (indicated by numbers 36 to 62) and both shown in general side elevation; Fig. 2 is a back or edge elevation of the latter pattern barrel and mechanism detached, at right angles to Fig. 1, showing more particularly the general arrangement and action of the pattern barrel-pins, the reversing of the catches, and traversing actuating lever of the shuttle-box moving mechanism. While Figs. 3, 4, and 5 are respectively a side and edge elevation and a plan of the main parts to a large scale detached shown in Fig. 2, Fig. 6 is a side elevation of another modification of our improved shuttle-box mechanism from that shown in Fig. 1 constructed to actuate a four shuttle box and work in connection with a pattern barrel mechanism such as now in use."

The specification continued by giving a detailed account of the mechanism. Besides the six mentioned above, there were three supplemental diagrams [Figs. 6*b*, 21*b*, 24*b*, and 30*b*] illustrating details corresponding to those numbers in the main diagrams. After the three shuttle box mechanism (Figs. 1 to 5) was described, the following passage occurred:—

" Although *the new* check shuttle-box moving mechanism (numbers 1 to 29) has, so far, been only shown and described as applied to a three shuttle box loom, it is equally applicable for working a four, five, or six shuttle box, and it can be worked with the pattern mechanism of check looms *now in use* where these are in a good state and of a suitable construction and only the shuttle-box moving mechanism required, and many of the *improvements in the pattern mechanism* numbers 30 to 62 may be applied to *other* pattern barrels and mechanism *heretofore or now* in use for check shuttle-boxes."

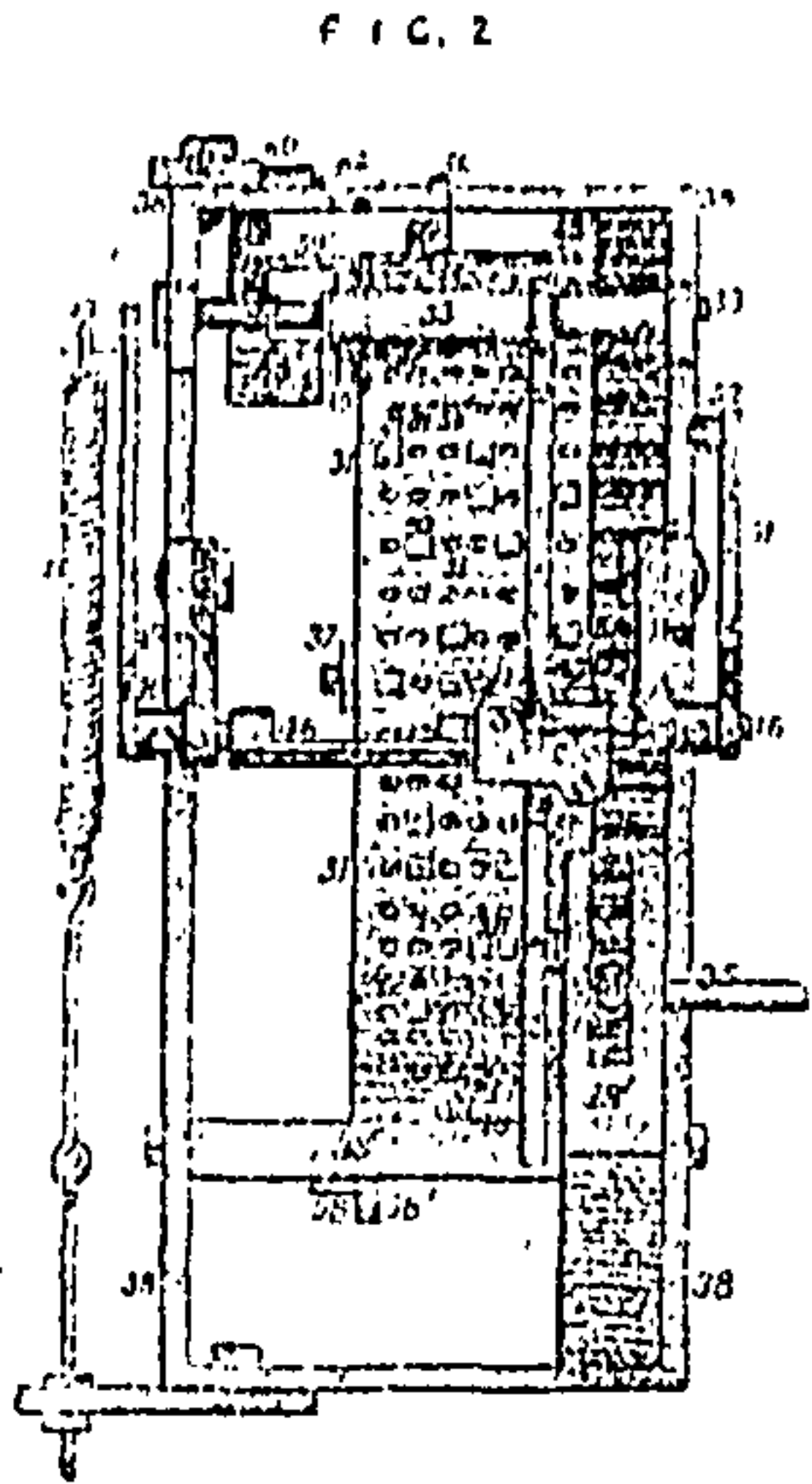
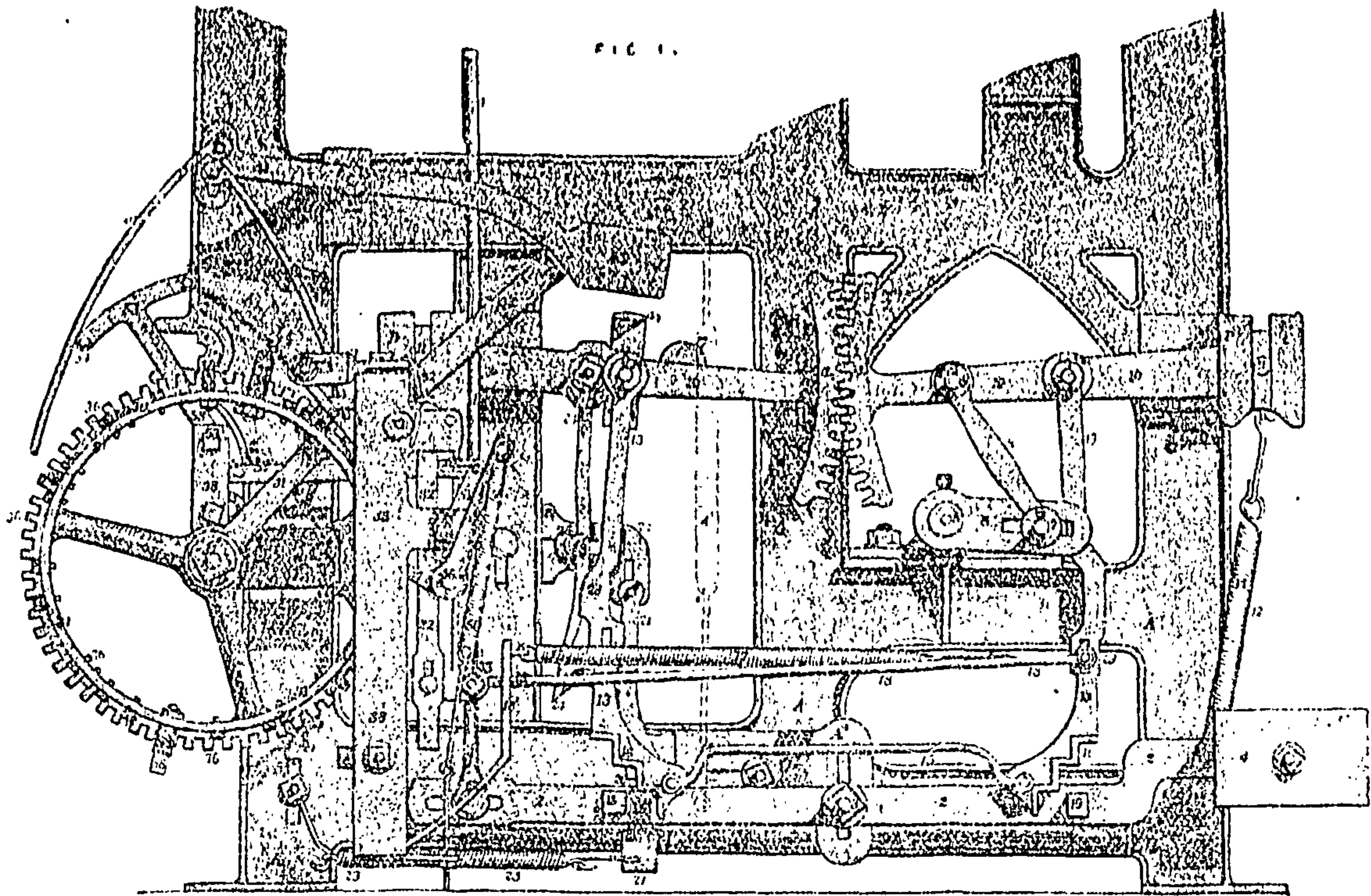
The modifications required were then described with reference to Figs. 6 and 6*b* in detail. With respect to the pattern mechanism, "it is to be understood that other and much simpler pattern mechanism than either of those now in use, herein shown and referred to, might for many small classes of patterns be as simply connected to control or set our improved check-box moving mechanism 1 to 29."

The claims were as follows:—

" We do not restrict ourselves to the precise details herein described or delineated, but what we believe to be novel and original, and therefore claim as the invention secured to us by the hereinbefore in part recited Letters Patent is—

<sup>1</sup> For the present purpose the first two diagrams are sufficient illustration.





Diagrams taken from Whyte's specification (No. 3310 of 1868).



"First, the construction and arrangements of the parts of pattern mechanism and shuttle-box moving and holding mechanism as herein distinguished, generally for actuating the shuttle-boxes of power looms, all substantially in the new or improved manner herein described and shown in the accompanying drawings or any mere modification thereof."

The second claim was for the duplex depressers, acting as described in the mechanism, "substantially in the new and improved manner herein described and shown in the accompanying drawings or any mere modification thereof."

The third and fourth were claims concluded in like words for the reversing pattern barrel, with annular rows of pattern pinholes, or simply resting-pins respectively.

The appellants were assignees of the above patent.

They brought an action for suspension and interdict against the respondents for infringement of this patent.

In March and April, 1875, the case was tried before Lord *Gifford* and a jury, who found that the appellants were the true and first inventors, that the invention was both novel and useful.

Various exceptions were taken to the directions of Lord *Gifford* to the jury.

The First Division of the Court of Session set aside the verdict, and granted a new trial (2 Ct. Sess., 4th Series, 857).

At the second trial the Lord President directed the jury to find for the defenders on the ground that the patent was void in law. This direction having been excepted to, the First Division of the Court of Session disallowed the exception on the ground that the specification did not so describe the invention claimed by the *first* claim as to show "wherein the invention consists, or what is the novelty that the patentee claims."

On appeal to the House of Lords.

*Held*, that the first claim was one for the combination of the pattern mechanism and shuttle-box moving and holding mechanism, and that on the face of it, the whole combination being alleged a novelty, the specification sufficiently distinguished the novelty of the alleged invention.

Lord *Cairns*, L.C. (at p. 578), in commenting on *Foxwell v. Bostock*, said, "If<sup>1</sup> there be a patent for a combination, the combination itself is, *ex necessitate*, the novelty; and the combination is also the merit, if it be a merit, which remains to be proved by evidence. So also with regard to the discrimination between what is new and what is old. If it is clear that the claim is for a combination, and nothing but a combination, there is no infringement unless the whole combination is used,<sup>2</sup> and it is in that way

<sup>1</sup> Quoted by Lord *Blackburn*, in *McCree v. Bennett*, 1 R. P. C. 149.

<sup>2</sup> This sentence, and a passage to the like effect in Lord *Chelmsford's* judgment (at p. 581), have been frequently quoted, apart from their context, in support of the proposition that a combination patent can only be infringed by taking the whole of it (see *Gwynne v. Drysdale*, 3 R. P. C. 67; *Ellington v. Clark*, 5 R. P. C. 140; *Miller & Co. v. Clyde Bridge Steel Co., Ltd.*, 9 R. P. C. 481); but Lord *Chelmsford* (at p. 581) and Lord *Penzance* (at p. 593) treat



immaterial whether any or which of the parts are new." . . . "The patentees claim, as I have said, for a combination under their first claim; . . . and in their second, third, and fourth claims they have specified the subordinate or subsidiary parts to which they lay claim as novel, and the specification of these subordinate or subsidiary parts appears to me to exclude the possibility of a claim for any other parts as novel."

Per Lord *Chelmsford* (p. 581): "This question turns entirely (as has been said) on the first claim in the specification. The office of a claim is to define and limit with precision what it is which is claimed to have been invented and therefore patented. In the construction of a specification, it appears to me that it ought not to be subject to what has been called a benign interpretation, or to a strict one.<sup>1</sup> The language should be construed according to its ordinary meaning—the understanding of technical words being, of course, confined to those who are conversant with the subject-matter of the invention—and if the specification is thus sufficiently intelligible, it performs all that is required of it."<sup>2</sup>

Lord *Pensance*, after discussing the facts and cases cited<sup>3</sup> dealing with claiming too much in a combination, continued (p. 591): "But it is obviously impossible to apply a doctrine of this kind to a case in which the Court has nothing before it but the specification itself, and that is the state of things in the present case. . . . The important distinction between the cases cited and the present is, that in the present case, in the stage at which it had arrived, no valid objection to the specification could be entertained which has not appeared on the face of the specification itself; whereas in the cases alluded to the specification was condemned only upon a comparison with the real invention."

### Notes.

The case of *Harrison v. Anderston Foundry Co.* is fully discussed by Lord *Halsbury*, L.C., in *Kynochs v. Webb* (17 R. P. C. 110–112), who pointed out that it is no authority in cases where the facts have been

this question as wholly irrelevant. These so-called *dicta* as to infringement of a combination go too far: *Proctor v. Bennis*, 4 R. P. C. 344. The question of infringement of a combination was never raised in the House of Lords even indirectly.

<sup>1</sup> Quoted with approval in *Westinghouse v. Lancs. and Yorks. Ry. Co.*, 1 R. P. C. 101, and by *Walker*, L.J., in *Webb v. Kynochs*, 15 R. P. C. 559.

<sup>2</sup> The whole of this passage is quoted in *Rowcliffe v. Morris*, 3 R. P. C. 22, and also the judgment of Lord *Cairns*, L.C., in support of the proposition that where a claim rests on a combination, it must be so clearly made out that the public can have no doubt but that the claim is for the combination, and not for its parts.

<sup>3</sup> The cases relied upon (not mentioned in the report) by the respondents in their case were *Crane v. Price* (per *Tindall*, C.J.), 1 Webs. 409; *Carpenter v. Smith* (per Lord *Abinger*), 1 Webs. 532; *Hill v. Thompson* (per Lord *Eldon*), 1 Webs. 237; *Templeton v. Macfarlane*, 1 Cl. & Fin. 595; *Jordan v. Moore*, L. R. 1 C. P. 624; *Foxwell v. Bostock*, 4 De G. J. & S. 298 (per Lord *Westbury*, p. 309); 12 W. R. 723; *Clark v. Adie* (per *James*, L.J.), 10 Ch. 657; *Harmar v. Playne*, 11 East. 101; *Parkes v. Stevens* (per *James*, V.C.), 8 L. R. Eq. 359. 5 Ch. 36; *Thomas v. Welch*, L.R. 1 C. P. 192.

investigated by judge or jury, and it is found that parts of the combination claimed as new are, *in fact*, old, as was the case in *Foxwell v. Bostock*.

*Harrison v. Anderston Foundry Co.* merely decides that the specification was "in form," and that it is not necessary to recite each part as "new" or "old." So understood by *Porter, M.R.I.*, in *Webb v. Kynochs*, 15 R. P. C. 288.

*Harrison v. Anderston Foundry Co.* has frequently been regarded as an authority to the effect that the novelty of the invention may be pointed out in the specification or in the claims (*Nordenfellt v. Gardner* (per *Baggallay, L.J.*), 1 R. P. C. 74); and that where the combination is a new one, it is immaterial on the question of sufficiency to specify what parts of the claim are old and what new: *Proctor v. Bennis* (per *Cotton and Bowen, L.JJ.*), 4 R. P. C. 351, 358; *Perry v. Société des Lunetiers*, 13 R. P. C. 670.<sup>1</sup>

This case was followed, as to the first claim, in *Ellington v. Clark*, 5 R. P. C. 135.

1876. HINKS: THE SAFETY LIGHTING CO., 4 Ch. D. 607.

*Benevolent Construction—Claim including what is old—Insufficiency of Specification.*

This action was brought to restrain infringement of a patent granted to *J. and J. Hinks* (No. 2787 of 1865) for "improvements in lamps for burning paraffin oil and other volatile liquid hydrocarbons."

The specification was<sup>2</sup> as follows:—

"Our invention consists of the improvements hereinafter described in the burners of lamps for burning paraffin oil and other volatile liquid hydrocarbons whereby two or more flat flames or one circular or nearly circular flame may be produced by the use of two or more single flat wicks. By the use of our invention the danger of breaking the chimneys which occurs from the use of a single flat wick is wholly removed or much diminished, and in the case of curved wick-cases or holders great facility in trimming and placing the wicks in the said cases or holders is obtained and a much greater length of the wick utilized than in ordinary argand or circular burners.

"Our invention consists in the employment in the same burner of two or more flat or curved wick cases or holders, in which said cases or holders single flat wicks are placed. Each of the said wick-cases is provided with an axis and pinions for raising and lowering the wick contained therein. The wick-cases or holders are either straight, or slightly curved, or of the figure of semi-ellipses, so as to produce when arranged in the burner flat or elliptical or circular flames. The cone or deflector has two or more straight or curved openings in it, through which the wicks may pass. That portion

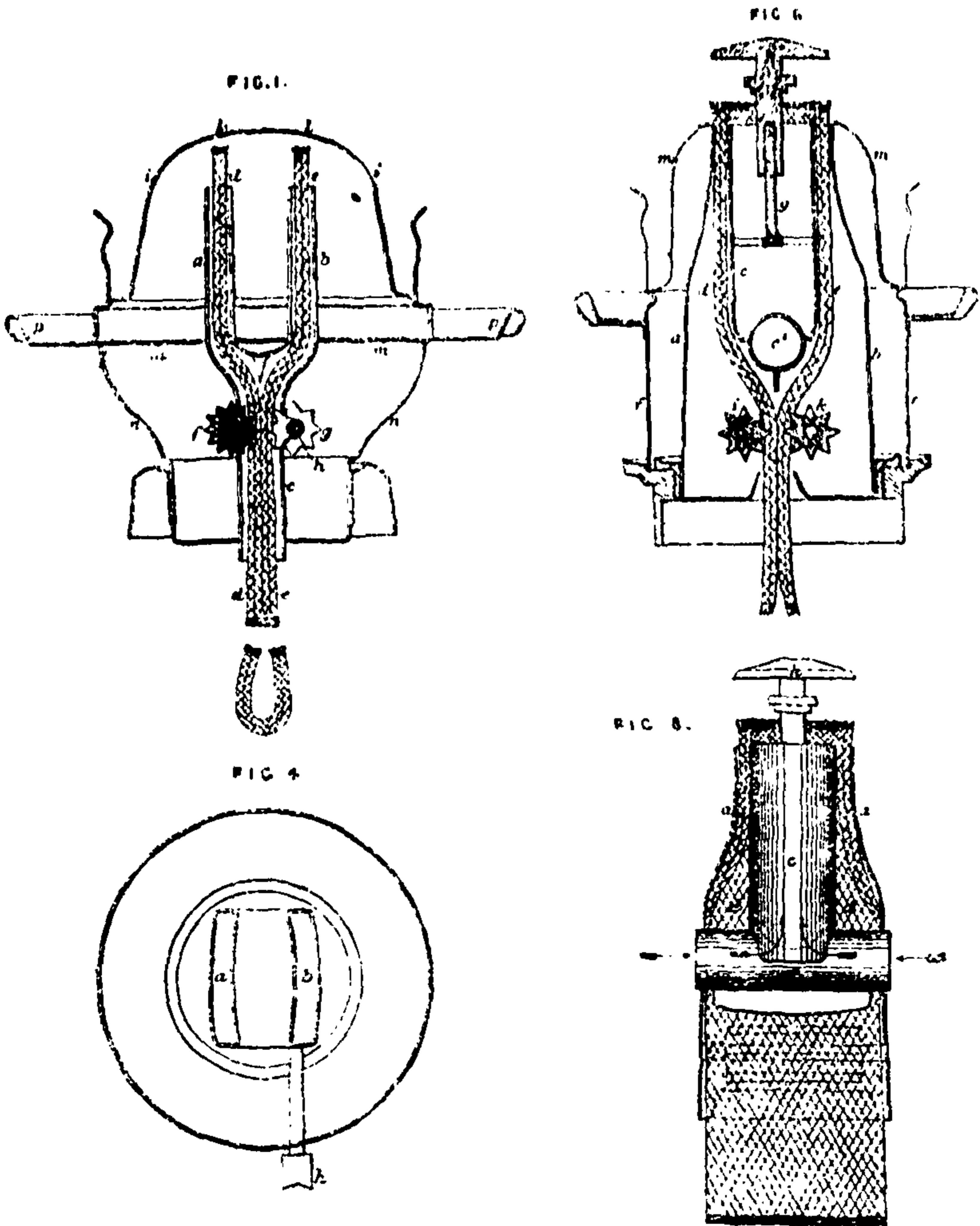
<sup>1</sup> It is submitted that the facts of the above case do not go so far as to justify so wide a proposition, inasmuch as the claim was construed to be for an entire new combination.

<sup>2</sup> Only these parts are referred to which are necessary to appreciate the decision.



of the top of the cone between the curved openings (when curved openings and curved wick-holders are employed) serves as a substitute for the ordinary button used with circular wicks, or a circular hole may be used in the cone and the ordinary button employed. When flat wick-cases are employed straight openings are made in the cone."

Fig. 1 shows a vertical section of the lamp; *a* and *b* are two branches



Diagrams from Hinks's specification (No. 2787 of 1865).

or forks of the wider tube *c*. The wicks *d* and *e* pass up, one through each branch, actuated by the pinions *f* and *g* in the usual way; "*i* is the cone or deflector of the lamp, the said cone *i* having two slightly curved openings,

*k*, *l*, in it, through which the wicks, *a*, *b*, may pass ;" *m* is a perforated disc, through which air passes to the wicks. " Instead of giving to the compound wick-holder the curved figure represented in the plan (Fig. 4), each branch of the wick-holder may be curved of the figure of a semi-ellipse, or the said branches may be straight, and the compound wick-holder may be made to contain more than two flat wicks, a corresponding number of openings being made in the cone or deflector for the wicks to pass through. By the use of compound wick-holders, or a series of single wick-holders made according to our invention, two or more flat flames or elliptical or nearly circular flames may be produced by the employment of two or more single flat wicks. . . ."

" Fig. 6 represents a vertical section of a burner for producing a circular flame by the use of two single flat wicks constructed according to our invention ; . . . Fig. 8 is a section of the wick-holder taken in a plane at right angles to that in which the section (Fig. 6) is taken. . . ."

In Fig. 6 *d* and *e* are the flat wicks, the holder being made in halves, and so shaped that it becomes circular near the top, the two wicks being gradually bent round till they meet ; *m*, *m* is the cone or dome with a circular opening ; *h* the deflector button supported on *g* and the inner tube of the holder. Fig. 8 shows the arrangement for the admission of air to the tube inside the wicks.

The claims were—

" Firstly, constructing the burners of the said lamps substantially in the manner hereinbefore described and illustrated in Figs. 1, 2, 3, 4, and 5 of the accompanying drawings, that is to say, the employment in the same burner of two or more flat or curved wick-cases or holders in which two or more flat wicks are placed so as to produce thereby two or more flat flames or elliptical or nearly circular flames.

" Secondly, constructing the burners of the said lamps substantially in the manner hereinbefore described and illustrated in Figs. 6, 7, 8, 9, 10, and 11 of the accompanying drawings, whereby a circular flame is produced by the use of two single flat wicks."

At the trial two anticipations were alleged, one a lamp made according to *Halvorsen's* American specification, which had been published in this country, and the other a specification of *W. Little* (No. 912 of 1856). *Halvorsen's* lamp differed in principle from the plaintiffs' only in having a circular opening in the dome or casing for the wick or flame to pass through, without the separation shown in the plaintiffs' between the slots *k* and *l*. *Little's* invention was not worked ; it was practically a failure. The only practical difference between it and the plaintiffs' was that the latter substituted flat wicks for a solid round one.

To the second invention claimed it was objected that the specification was insufficient, inasmuch as there were no directions in the letter-press, nor indications in the drawings, to show how the air was to be admitted to the space between the dome or cone *m*, *m* (Fig. 6) and the wick-holder *a*, *b*, or from that space to the flame.



*Held*, that on the true construction of the specification the first claim as regards "elliptical or nearly circular flames" included the case where there was no dividing portion between *k* and *l*, and that it was therefore anticipated by *Halvorsen's* lamp;<sup>1</sup> that the substitution of the flat wicks for the solid round wick of *Little's* patent was sufficient invention to support a patent, *Little's* having been unworkable;<sup>2</sup> and that the description of the method of carrying out the second invention was insufficient because of the omission to show any air-passage.

*Jessel*, M.R. (p. 612): "I am anxious, as I believe every judge is who knows anything of patent law, to support honest *bona fide* inventors who have actually invented something novel and useful, and to prevent their patents from being overturned on mere technical objections, or on mere cavillings with the language of their specification so as to deprive the inventor of the benefit of his invention. This is sometimes called a 'benevolent' mode of construction. Perhaps that is not the best term to use, but it may be described as construing a specification fairly, with a judicial anxiety to support a really useful invention if it can be supported on a reasonable construction of the patent.<sup>3</sup> Beyond that 'benevolent' construction does not go. It never was intended to make use of ambiguous expressions with a view of protecting that which was not intended to be protected by the patentee, and which has not been claimed to be so protected by him, whether or not it was an invention unknown to himself." The learned judge discussed the specification, pointing out that there were two sets of drawings and one claim for each. As to *Little's* anticipation (p. 615), the only material difference was the substitution of a flat for a round wick. "As far as I can ascertain from the authorities, the merit very much depends on the result produced. Where a slight alteration in a combination turns that which was practically useless before into that which is very useful and very important, judges have considered that, though the invention was small, yet the result was so great as fairly to be the subject of a patent; and, as far as a rough test goes, I know of no better.<sup>4</sup> . . ."

"When (p. 617) you have such a little trumpery invention as the second, the whole merit of which is very small indeed, if you are to tell people how to do things better, you must tell them in a proper way, without the exercise of any invention or much trouble; and, in my opinion, this is not within the rule, and is badly specified."<sup>5</sup>

<sup>1</sup> The first claim failed because it included something that was old. *FitzGibbon*, L.J., in *Webb v. Kynochs*, 15 R. P. C. 555; and *Walker*, L.J. (*ibid.* p. 559).

<sup>2</sup> This is an example of a slight difference constituting novelty: *Haslam v. Hall*, 5 R. P. C. 19. This case is referred to by Lord *Halsbury*, L.C., in *Thierry v. Rickmann* (14 R. P. C. 115), as showing that simplicity of invention will not render a patent bad; nor utility make a bad specification good.

<sup>3</sup> This is quoted in *Plimpton v. Spiller*, 6 Ch. D. 422, where the reason for the rule is given as arising from the want of power of the patentee to amend (*post*, p. 258). "Benevolent construction" in this case did not make a bad patent good: *Walker*, L.J., in *Webb v. Kynochs*, 15 R. P. C. 559.

<sup>4</sup> This rule was quoted and followed in *Pirrie v. York St. Flax Co.*, 11 R. P. C. 450.

<sup>5</sup> Quoted and followed as regards insufficiency in *Fletcher v. Arden*, 5 R. P. C. 57.

1876. PLIMPTON v. SPILLER, 6 Ch. D. 412.

*Construction--Subsidiary Claim.* (As to *Publication*, see *ante*, p. 26.)

The specification (No. 2190 of 1865) described the mode of construction of a roller skate. The claims were for:—

“First, applying rollers or runners to the stock or footstand of a skate, as described, so that the said rollers or runners may be cramped or turned so as to cause the skate to run in a curved line either to the right or left by the turning, canting, or tilting laterally of the stock or footstand.

“Second, the mode of securing the runners and making them reversible, as above described.”

It was proved that as to the second claim the mode of securing the runners actually described was old and well known, and that no workman would dream of claiming it as a separate invention.

*Held*, that the second claim was only for securing the runner to the skate, and not for the mode generally, and that it did not enlarge the monopoly of the first claim.

*Jessel*, M.R. (p. 422), said that “it is the duty of a judge to construe a specification fairly with a judicial anxiety to support a really useful invention if it can be supported upon a reasonable interpretation of the patent . . . and is not to be astute to find flaws in small matters in a specification with a view to overthrow it because of the want of power to amend a specification. . . .”<sup>1</sup>

(P. 423): “When we come to read the claim, I think it fair to say that, if it can be read in two ways, one claiming something that has a merit of novelty, and the other claiming something which would show the man to be ignorant of all the ordinary appliances used in every workshop in the world, it is the duty of the judge to adopt the construction which makes the patent reasonable and sensible, rather than that construction which makes the patent utterly absurd.”

*James*, L.J. (p. 426), pointed out that the custom of making claims had arisen although “there is nothing in the Act or in the patent law which says anything about claims,” and that the object of the claim was to disclaim what was old.<sup>2</sup>

P. 428: “After all, that second claim really comes to nothing more than is included in the description of the invention itself. . . . It seems to me to be perfectly idle and superfluous to the claim in the first part. They neither add to nor diminish from the patent, nor the monopoly which the patentee is seeking to obtain against the public.”

<sup>1</sup> Followed as authority by *Fry*, J., in *Wegmann v. Corcoran*, 13 Ch. D. 77. As to amendment of specifications, see *ante*, Ch. IX. p. 160. Followed in *Westinghouse v. Lanc. & York. Ry. Co.*, 1 R. P. C. 101.

<sup>2</sup> This view was adopted by *Smith*, L.J., in *Edison Bell Phonographic Corporation v. Smith*, 11 R. P. C. 405. [This *dictum* was before the Act of 1883, which directs claims to be made. See *Construction of Claims*, *ante*, pp. 89-99.]



## Notes.

The doctrine of "benevolent construction," as enunciated in this case, applies only where there is an ambiguity. "You must not manufacture ambiguity, but construe words according to their proper meaning." Lord *Davey* in *Parkinson v. Simon*, 12 R. P. C. 411. Compare *Nobel v. Anderson*, *post*, p. 366.

No principle of construction of claims was laid down in this case, it merely depended on the special facts and specification; had the claim been really independent the patent would have been invalid: *Fry*, L.J., in *Cropper v. Smith*, 1 R. P. C. 91. A subsidiary claim for a new invention combined with what is old does not invalidate, as it does not affect the extent of the monopoly: *Edison Bell, &c. v. Smith*, 11 R. P. C. 163. This case is no authority for the proposition that a claim, even subordinate, expressed in general terms, is limited by reading into it words that are not there because it would otherwise be invalid: per Lord *Alverstone*, M.R., and *Rigby*, L.J., in *Electric Const. Corp. v. Imperial Tramways Co.*, 17 R. P. C. 549.

1877. CLARK *v.* ADIE (No. 1), 2 App. Ca. 315.

*Construction of Specification—Subordinate Integers.*

A patent (No. 3076 of 1869) was granted to *J. R. Grayson* for "improvements in apparatus for clipping or shearing horses and other animals."

A provisional specification was filed giving an outline of the invention. It concluded as follows:—

"It may be made of various sizes, from very fine teeth for clipping horses to coarse teeth for shearing sheep or other animals, and it possesses, as stated, the advantage over all other clipping apparatus of being varied and adjusted as to cut just above the hoof, or under the flank, or the neck of the horse without difficulty or danger."<sup>1</sup>

The complete specification was as follows:—

"My invention relates to certain improvements in the construction of apparatus for clipping horses and for shearing or clipping other animals, the advantages consisting chiefly in the facility afforded of clipping the hair or wool at a short distance from the skin instead of shaving the animal close, in the application of the cutting blades in relation to the comb, and especially in the means of adjusting the cutter in any desired variety of position in regard to the guiding and clipping handles, whereby all parts of the animal may be operated upon with equal facility.

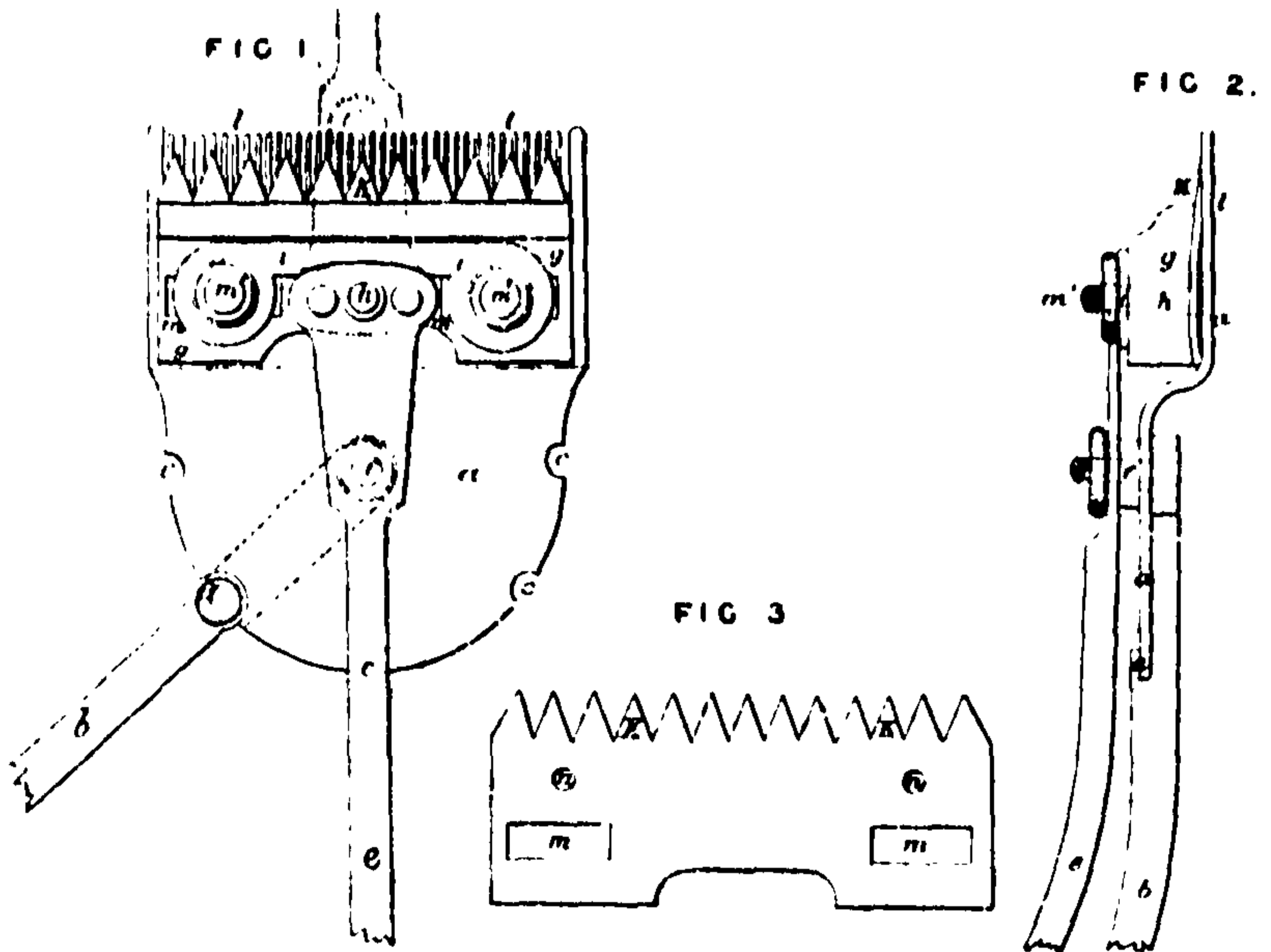
"The apparatus consists of a flat guide-plate (*a*)<sup>2</sup> on which the moving parts are carried; its upper portion is cut with a series of teeth (*l*), to form

<sup>1</sup> Quoted by Lord *Cairns*, L.C., in his judgment (p. 319), and also alluded to by Lord *Hatherley* (p. 329) in describing the real nature of the invention.

<sup>2</sup> The references to the diagrams are inserted in this part of the specification instead of reproducing the description verbatim lower down. The same letters denote the same parts throughout. In the original drawings the handles *b* and *c* were shown as of considerable length.

a comb or guide for the cutting-knives (*k*) to traverse, but the points of these teeth are so tapered as to be slightly above the under level of the plate, whereby the skin of the animal is protected from injury.

"A holder or guiding-handle (*h*) for the left hand is attached to the lower portion of the plate by means of a forked or single bar, through the ends of which and through the plate a strong pin or stud (*f*) is inserted, secured to the under side of the plate by a head or screw-nut. The plate being provided with a series of apertures (*c*) placed equidistant from the stem, it



Diagrams from Grayson's specification (No. 3076 of 1869).

follows that the guiding-handle may be set to any angle up to 90 degrees on each side of the centre of the plate, and secured at that angle by means of a set-screw (*d*) or other equivalent passing through corresponding apertures in the forked bar. The upper surface of the plate contains two fixed stems (*m'*) in line with the edge of the comb, which serve to support a horizontal bolt of metal by means of two slots (*m*), enabling the bolt to shoot to and fro by the action of the working-handle of the apparatus, which is operated by the right hand, although whenever required the left hand may be used to cut and the right to guide.

"The clipping-handle (*e*) takes its fulcrum from the central stud, working loosely thereon, and elevated clear of the sliding-bolt (*d*) by the intervention of a collar (*f*), being finally secured by a double-headed thumbscrew or milled-edged button-screw. The handle being terminated by an enlarged flat surface is pierced with a series of holes, any one of which may be made to gear with a stud (*h*) on the side of the block (*g*), so that the motion of



the handle will cause the bolt to move reciprocally in a true line on the upper surface of the guide-plate. As a consequence the working or cutting-handle can also be set to any desired angle in regard to the plate and guiding-handle as most convenient for the operator. A nut may also be applied to the bolt-stud to steady its handle-bar. A portion of the bolt may be planed or cut away so as to leave a space between it and the plate, within which space the knife-bar may be secured resting in a step along the block, and being fixed to the stud passing through the bolt or by means of two short pins (*n*). The knives (*k*) project from the cutter-bar free from the bolt, and take their bearing on the comb; they are made very strong and after the manner of triangular cutters used in mowing or reaping machines, so that there is no possibility of the teeth of the comb becoming clogged or choked by grit or other foreign substance, as is the case with knives which work by pressing or squeezing action against the comb and thus break the teeth.

“A friction-plate or washer and nut is finally placed over each stem of the slots, so that the adjustment of the knife-bolt may be regulated. The knife-bar being thus separate and distinct from the handle, it may easily be removed and another cutter applied to avoid loss of time in sharpening.

“In this apparatus no bearings are made dependent on screws set in plates, and which are so liable to become loose or broken by the undue pressure exerted on them. In place of such bearings the bearings and fulcrum are taken from stems of great strength, which cannot get out of order or be broken by any work to which the apparatus may be subjected.”

Then follows a detailed description of the drawings, and a paragraph telling the advantages of the instrument, its action being described thus:—

“As the reaping-machine divides the stalk, so also this instrument takes away the desired extent of hair by the simple to-and-fro motion of the angular cutters in conjunction with the protecting and guiding comb.”

The claiming paragraph recited that the inventor did not restrict himself to precise details, which might be modified:—

“For example, the angles of the cutters, their size, and number may be varied, and also the number of teeth in the comb and the dimensions and strength of the apparatus may be increased or diminished according to the purpose for which it may be required; but what I claim and desire to be secured to me by the herein in part recited Letters Patent is, the general arrangement, construction, and combination of parts whereby I am enabled to construct an apparatus for clipping or shearing horses and other animals in such manner that the apparatus may be adjusted to numerous angles or positions to suit the varying surface of the animal, and whereby the shearing or clipping may be regulated to the exact extent required without shaving the hair or wool too closely and without injuring the animal, leaving a smooth surface without marks, the apparatus being capable of being taken to pieces and adjusted for sharpening or renewing the cutter-bar, or for other purposes, all substantially as herein specified and shown.”

The appellant *Clark* was a manufacturer of horse-clippers. All previous ones made on similar lines failed owing to the studs, screwed into a thin base-plate, working loose. He devised a new clipper, getting rid of that and other difficulties.

The respondent, *Adie*, was a licensee of *Clark* under a patent of *Clark's*. *Adie* copied *Clark's* improved machine, which was not made in accordance with *Clark's* patent. *Clark* found on inquiry that *Grayson's* patent was in existence, and thought that some of his improvements were infringements of *Grayson's*. He thereupon bought *Grayson's* patent.

*Clark* then, as assignee of *Grayson's* patent, filed a bill in Chancery to restrain *Adie* from infringing it, and prayed other relief.

It was proved at the trial that *Clark's* clipper was an undoubted improvement and success; also that none made under *Grayson's* specification had been commercially used.

The alleged infringement consisted in the use or combination of four elements—the fixed stems, the nuts and washers to adjust the friction, the arching of the cutter-plate (as shown in Fig. 2), and the mode of moving the cutter-plate in the true line of cutting.

At the trial it was held by *Bacon*, V.C., that the patent was valid, and that the respondent had infringed.

On appeal the decree of the Vice-Chancellor was reversed on the grounds that the whole machine consisted of certain improved parts, that the arching of the cutter-bar was no part of the invention, which really consisted in the angular knives and comb combination, the adaptability of the handle, and the improvements making the cutter-bar more easily removed and replaced.<sup>1</sup>

On appeal to the House of Lords.

*Held*, that on the true construction of the specification the inventor claimed the horse-clipper as a whole combination, and that there was no claim for any subordinate combination such as the alleged infringement.

### Notes.

The judgments of Lord *Cairns*, L.C., p. 320, and Lord *Hatherley*, pp. 328, 329, have been referred to as authority for the proposition that a patentee may claim a subordinate combination in addition to the whole combination of which it forms a part, but at the risk of invalidating the patent should the claim for the subordinate combination be invalid: *Cropper v. Smith* (per *Cotton*, L.J.), 1 R. P. C. 87; *Moore v. Bennett*, 1 R. P. C. 137; *Webb v. Kynochs* (per *FitzGibbon*, L.J.), 15 R. P. C. 555; *Chamberlain v. Bradford*, 17 R. P. C. 507.

The judgment of Lord *Cairns*, L.C., was quoted at length in *Rowcliffe v. Morris*, 3 R. P. C. 25, to show that there was no claim for a subordinate

<sup>1</sup> All the foregoing summary is compiled from the specification and original cases and joint Appendix used in the House of Lords.



combination, and that the facts of the two cases being similar, the above decision applied.

Lord *Cairns*, L.C., pointed out in his judgment that in dealing with combination claims it is assumed that the parts are old (*Wenham Co. v. May*, 4 R. P. C. 308), and the difficulty in dealing with inventions of new combinations of old elements (*Proctor v. Bennis*, 4 R. P. C. 339).

The invention patented was not the clipping, but the particular machine described: *Vorwerk v. Evans*, 7 R. P. C. 171.

The passage (on p. 320) of Lord *Cairns*'s judgment dealing with the modes in which a combination claim may be infringed has very often been judicially quoted:—*Sugg v. Bray*, 2 R. P. C. 233; *Procter v. Bennis*, 4 R. P. C. 345, 361; *Ellington v. Clark*, 5 R. P. C. 140; *Peckover v. Rowland*, 10 R. P. C. 239; *Muirhead v. Commercial Cable Co.*, 12 R. P. C. 63; *Incandescent Gas Light Co. v. De Mare*, 13 R. P. C. 331, 571, 579; *Presto Gear Case Co. v. Simplex, &c.*, 15 R. P. C. 643. To the like effect *James*, L.J., in the Court below, was quoted (10 Ch. Ap. 674) in *Thomson v. Moore*, 6 R. P. C. 443, 446; *Incandescent Gas, &c. v. De Mare*, 13 R. P. C. 331.

It has been supposed that the patent in *Clark v. Adie* was "not supported" (*Proctor v. Bennis*, 4 R. P. C. 345), and that the specification was "insufficient" (*Webb v. Kynochs*, 15 R. P. C. 555). Both opinions are erroneous, the sufficiency of specification and validity of the patent were never really in dispute, nor was it suggested that the inventor failed to make a sufficient claim to his invention. What was "not supported" was the argument of counsel that the specification included a claim for the subordinate integer of the combination which the defendants had adopted; and the "insufficiency" was the insufficiency of the claims to include the subordinate integer as a separate invention.

1877. DUDGEON *v.* THOMSON, 3 App. Ca. 34.

*Construction of Amended Specification—Extent of Claim.*

A patent (No. 699 of 1866) was granted to *G. T. Bousfield* for an invention (communicated by the plaintiff, *R. Dudgeon*, from abroad) for "improvements in apparatus for expanding boiler-tubes." The specification was amended in 1875 by the inventor, as assignee of the patent.

The specification originally contained a description of methods of expanding the ends of boiler-tubes to make their fittings steam-tight; (1) those in which there was a direct rubbing action of a tapering plug upon the metal of the tube, and (2) those in which the plug had no direct action on the tube, but *only* rolling contact with the rollers. The first class of these methods, a cutter, ratchet-handle, and screw-feed, were all disclaimed.

The specification commenced with a description of the object of the invention—"to expand the tube by rolling the metal by the application of

[one or more]<sup>1</sup> pressure rollers to the interior of the tube" instead of the older system of hammering. Then followed a description (all struck out by disclaimer) of methods in which a tapering plug was used along with a single roller, concluding with a statement of the disadvantage resulting from the plug coming in contact with the tube.

The invention is then described in detail:—

"The roller expanding-tool for general use is [therefore] constructed, by preference, as represented at Figs.<sup>2</sup> 1, 2, 3, 4, and 5 of the accompanying drawings, with three or more rollers, *a, a, a*, which are held in a ring-frame or stock, *B*, and are operated by means of a tapering plug, *C*, inserted between them. The rollers should be set at equal distances apart; they should also be of equal size, and their profile should be the same as that of a longitudinal section of the interior of the extremity of a tube when properly expanded. Their journals, *e, e*, are also held in radial slots, which permit the rollers to move outwards from the centre of the stock. In this case the tapering plug is simultaneously forced inwards between the rollers, and turn upon its axis by the application of the hands of the operator to a wrench or spanner, *D*,<sup>3</sup> fitted to the head of the plug *C*, and the rollers *a, a, a*, are caused to turn by the frictional contact of the surface of the plug with their surfaces, so that the series of rollers are caused to roll within the end of the tube, and are at the same time caused to diverge by the turning and entrance of the tapering plug. The tapering plug may have a shallow, flat screw-thread formed upon its surface, so that it will draw itself inwards as it is turned by hand, but such a thread is not essential to the successful operation of the instrument; or in place of such a thread the slots which hold the journals of the rollers may be slightly skewed, so that the axes of the rollers will be slightly skewed to the axis of the tube, the effect of which is to cause the tapering plug, when turned in one direction, to draw into the tube, and when reversed to loosen itself between the rollers. In order to hold the rollers in their innermost positions when the tool is inserted in the tube, a ring-groove may be formed in the stock *B*, and a spring-ring, *g*, may be inserted into it, so as to bear upon the journals of the rollers *a, a, a*, and hold them in their inner positions when the tapering plug is removed."

A simpler form of the device was shown in Figs. 6 and 7: "In this example three rollers, *a, a, a*, are used, and, in place of being made solid, are bored out and arranged to turn loosely upon arbors, *e, e, e*, so that they may diverge when the expanding plug *C* is turned and forced in between them. The tapering plug *C*, shown in the example, has a screw-thread cut upon it,

<sup>1</sup> The amendments and disclaimer were contained in a separate document. They are here shown where necessary by the more modern method; all words omitted by amendment are enclosed in square brackets, and those inserted are shown in italics.

<sup>2</sup> Owing to the disclaimer of the method of turning the apparatus and the cutting device, it is unnecessary to give the drawings in full, or to include Fig. 4. The tapering plugs were three or four times the length here shown.

<sup>3</sup> *D* need not be shown. *C*, in Fig. 1, was prolonged upwards, about double the length of the part here shown.



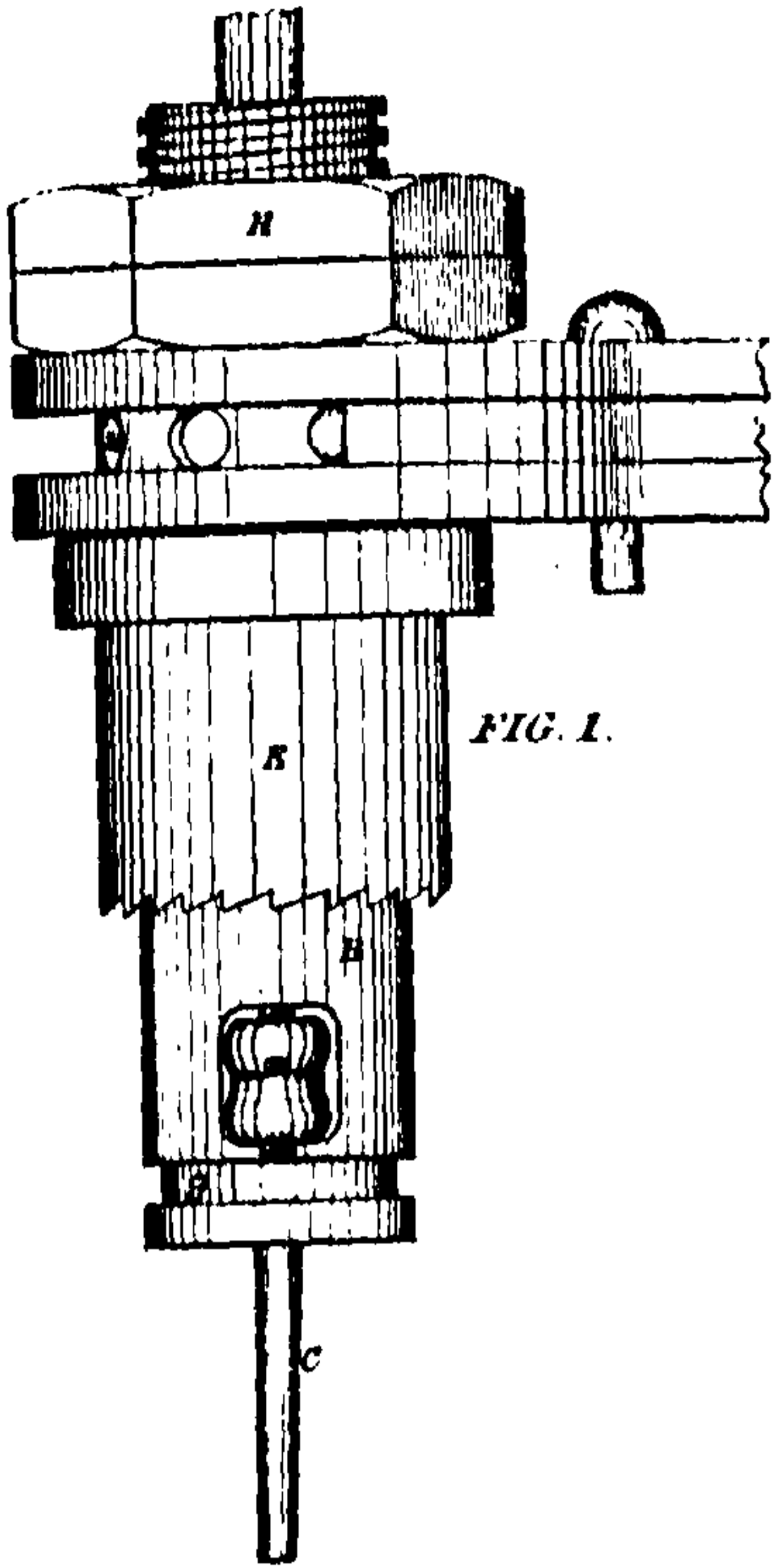


FIG. 1.

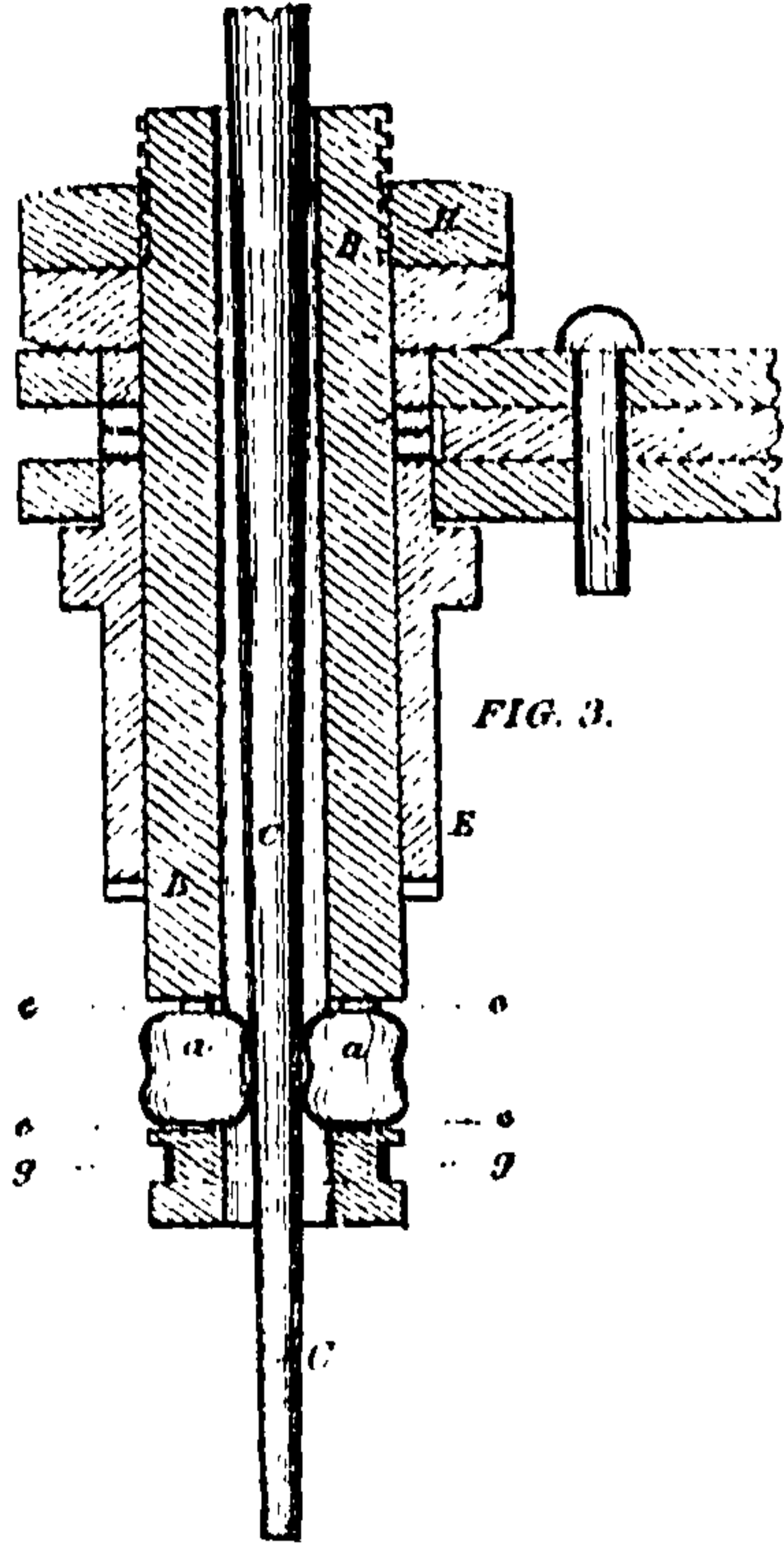


FIG. 3.

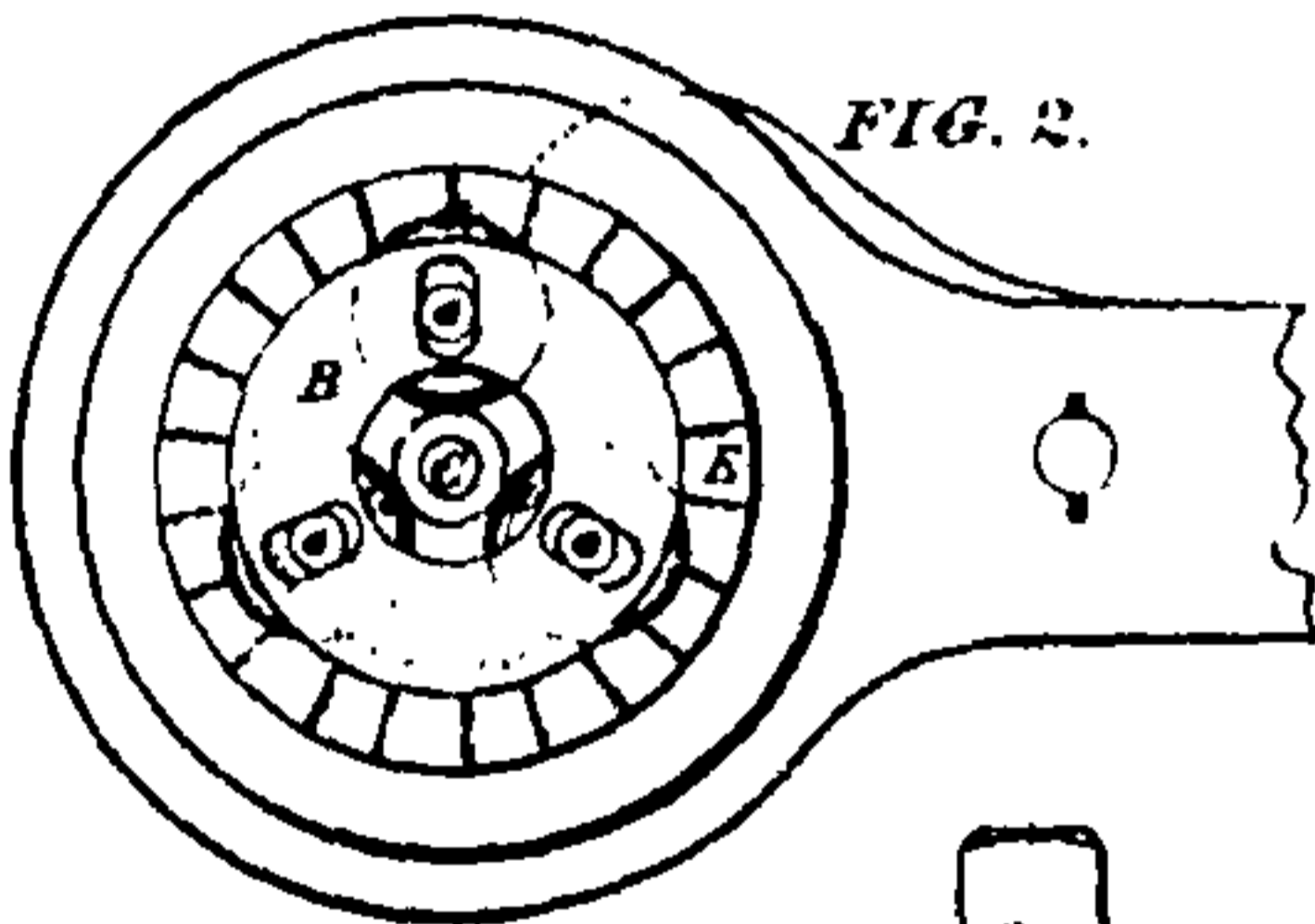


FIG. 2.

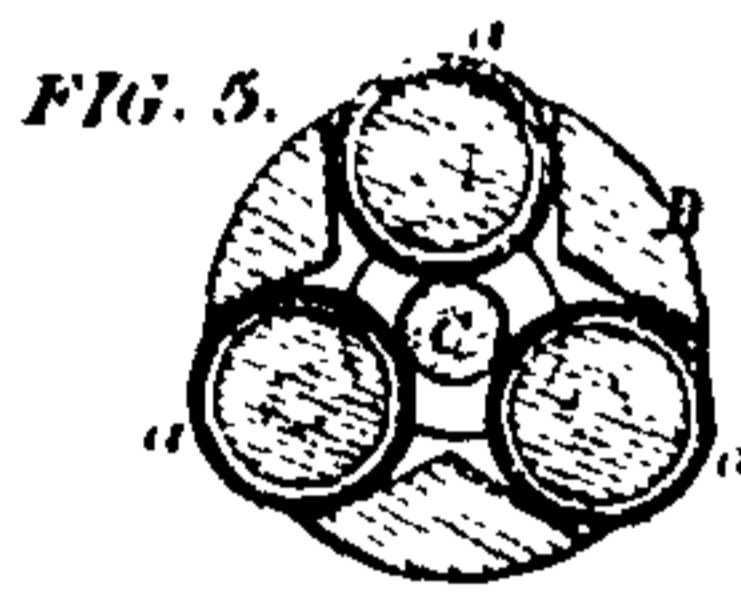


FIG. 5.

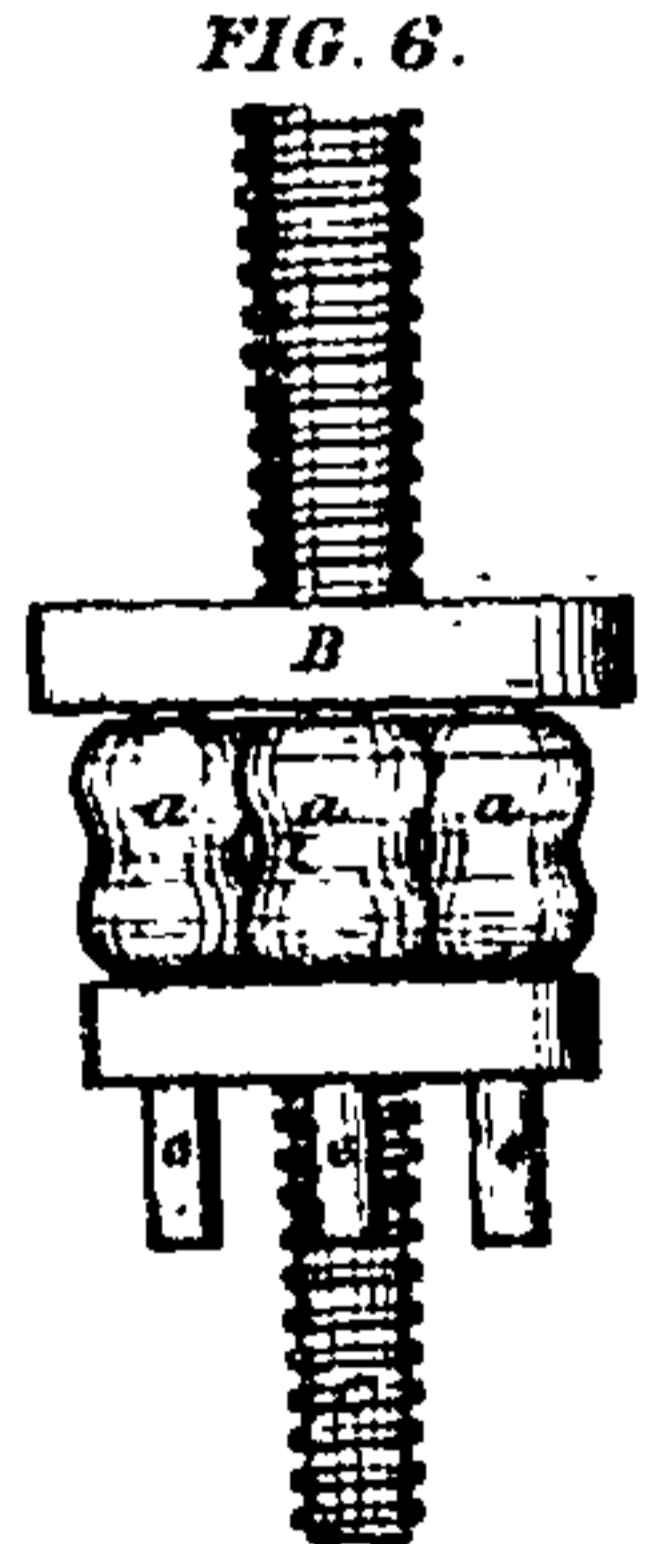


FIG. 6.

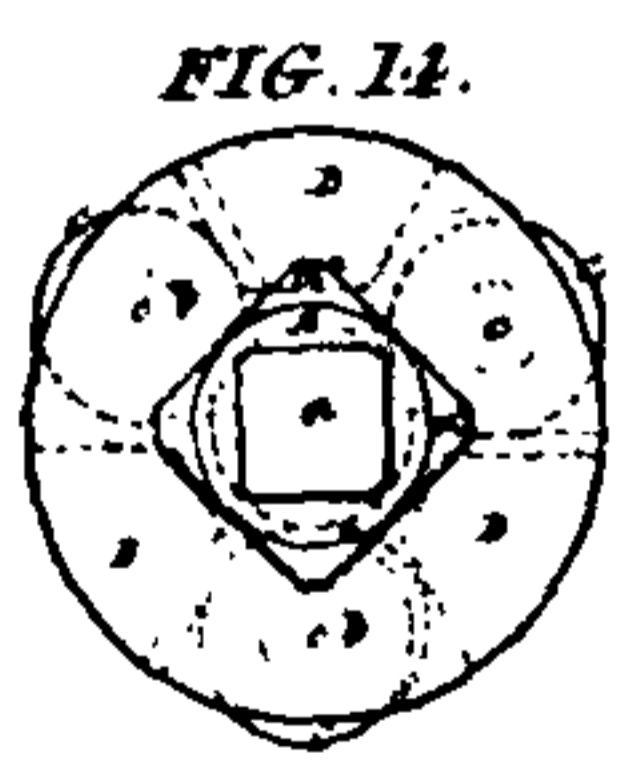


FIG. 14.

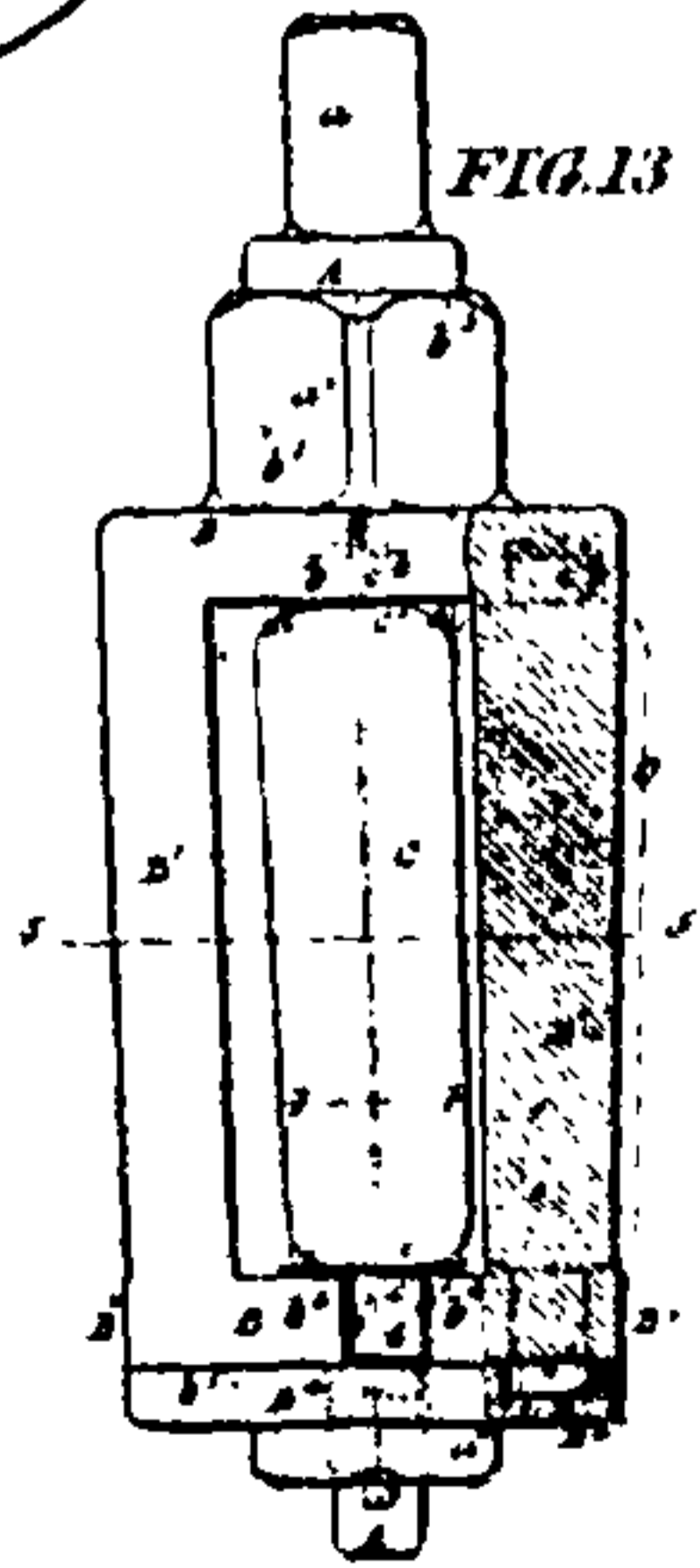


FIG. 13.

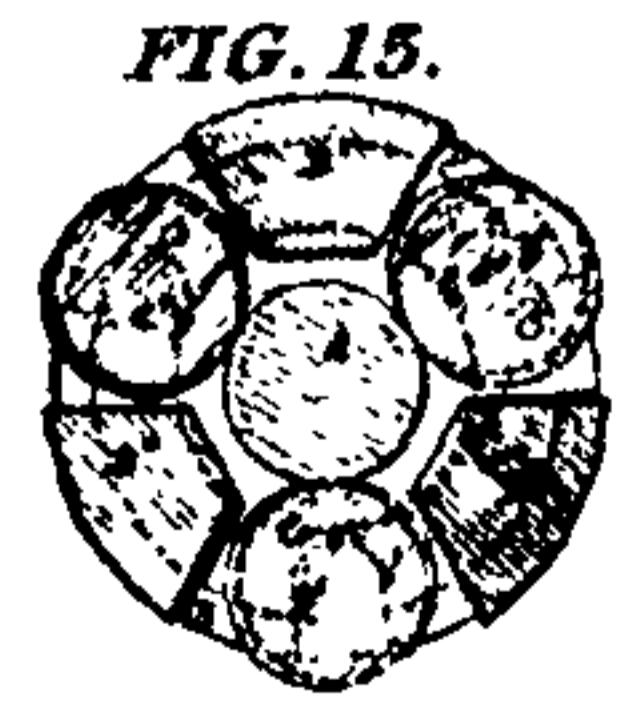


FIG. 15.

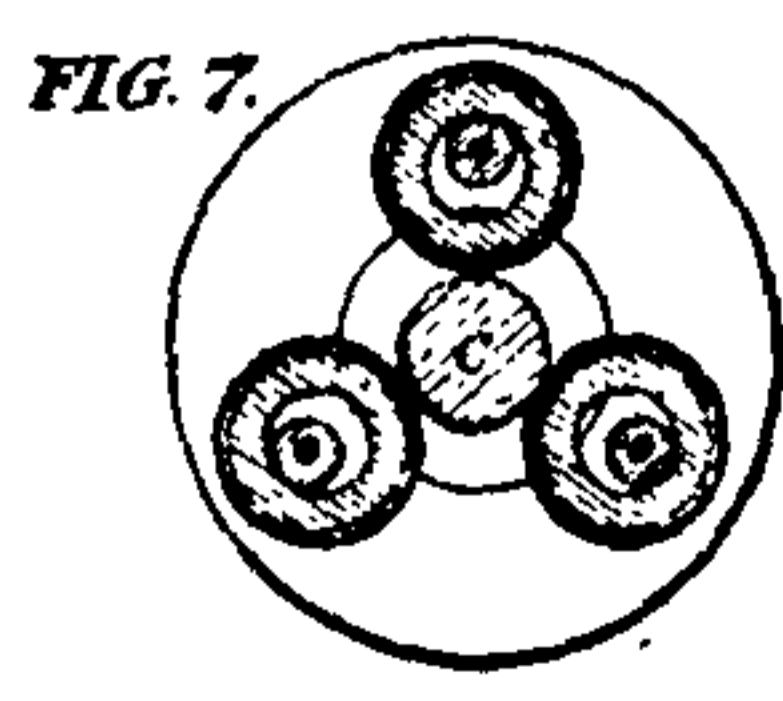


FIG. 7.

Figs. 1, 2, 3, 5, 6, and 7 are from Dudgeon's specification (No. 699 of 1866). Figs. 13, 14 and 15 are from Thomson's specification (No. 1630 of 1874). The sketch is one of defendant's exhibits.

as before described, but this is not essential to the practical operation of the instrument." New forms of profile of the rollers were suggested in order to keep them from working their way into the tube, or a gauge might be used.

The specification concluded as follows :—

"[Although a tapering or wedge-formed plug is preferred as the expanding instrument; the invention is not limited to an expanding instrument of that form, as circumstances may render expedient the use of an expanding instrument of different form; thus, when a tool is sufficiently large, an arrangement of toggle-jointed levers may be inserted in it for the purpose of expanding the roller, in place of a tapering plug].

"In [all] the above-described modifications of the roller expanding-tool [at least one roller is] *rollers are* combined with a tapering plug (or its equivalent, by whose action the [roller is] *rollers are* forced outwards in the tube), and with a stock or holder, by which the roller is prevented from twisting sidewise as [it is] *they are* turned round in the tube. [These three instrumentalities are all that are absolutely essential to the construction of the roller expanding-tool, but the cutter and ratchet-handle constitute with the said instrumentalities or implements useful combinations which are supplementary to the aforesaid fundamental combination;] what is claimed, therefore, as the invention to be secured by Letters Patent is, the combination in an expanding-tool of the following implements, viz. the rollers, roller stock, and expanding instrument, these three operating in combination substantially as set forth."

There were three more claims for the combinations, comprising as distinctive elements in each respectively, a trimming-cutter, ratchet-handle, and screw-feed. All these were struck out by disclaimer.

The appellant had obtained an interdict from the Lord Ordinary against the respondent, restraining him from infringing the above patent; this interdict was adhered to by the First Division of the Court of Session on July 4, 1873.

The specification was amended in 1875.

The appellant proceeded by way of petition and complaint for breach of the interdict, and finally, on December 22, 1876, the First Division of the Court of Session held that no infringement had been committed by the respondent.

It was proved at the trial<sup>1</sup> that on "screwing" in the tapering plug the rollers (which were cylindrical throughout) were in contact with the "edges" of the conical plug, and consequently the axes of these rollers were nearer to the axis of the plug where the latter was of smaller diameter. The effect of the "screwing" process was, while rolling out the shorter tube, to draw in the plug relative to the rollers, and the latter relative to the tube. Hence the necessity for either grooving the rollers or using a gauge, but the endwise movement of the tapering plug was essential.

<sup>1</sup> Only so much of this case is noted as bears on the questions of construction of the specification and extent of the claim.



The alleged infringement consisted of a tool made under a subsequent patent (No. 1430 of 1874), the form and action of which was as follows:— Three rollers, smaller at one end than the other, were mounted in a rigid, open frame. They were placed symmetrically, much the same as in the appellant's arrangement. But they were not set so that the axis of each was parallel to the central axis of the tool, but askew. These rollers had no lateral outward motion, so they could not be displaced by a central roller. These three rollers were not cylindrical, but almost conical, being curved slightly to enable them to be in continuous contact with a central cylindrical roller.<sup>1</sup> The whole tool was slightly greater at one end than the other. In the accompanying diagrams and sketch, A denotes the central roller, *a* its head, *c* the three rollers set askew, B, B' and *b* portions of the rigid framework of the tool.<sup>2</sup> It could be used either by rotating the central cylinder A, which by frictional contact turned the rollers C. These, by a screw-like action, worked into the tube, enlarging it at the same time. Or the whole tool might be rotated from without with or without using the central cylinder or roller. The former method was preferable where considerable force was required. There was no endwise motion of the central roller relative to the three rollers, but (unlike the appellant's) the latter rollers had to move forward in the tube.

The petitioner appealed to the House of Lords.

It was held that the proceedings were irregular, and that a fresh action should have been brought after the amendment of the specification. In order to save expense, their lordships expressed their opinions on the merits of the case.

Lord Cairns, L.C., commented on the legal position of the parties under the irregular procedure, and pointed out that (p. 38) "after disclaimer and alteration, the specification is altered largely and most materially."<sup>3</sup> The first point was (p. 39) to satisfy one's mind "as to what it is which is the principal characteristic, the essential feature, of the appellant's invention as specified in his patent." His lordship reviewed the previous methods with their defects of enlarging the tubes by percussion. Mere insertion of a bunch of rollers, rotated by the rotation of a central roller, would not suffice to bring strong pressure to bear on the tube. Therefore it is obvious that the point and gist of the invention must be, not the insertion of friction rollers, but the mode of bringing pressure to bear on them outwards. "I will ask your lordships to look at a few sentences, both in the specification as it originally stood, and in the specification as it stands after alteration,

<sup>1</sup> The surface would be approximately a hyperboloid of revolution of one sheet. The author is indebted to Messrs. *Thompson & Co.* for the duplicate of an exhibit here reproduced.

<sup>2</sup> Defendant's specification included: "Figs. 13, 14, and 15 are respectively a side elevation partly in section, a plan of the driving end, and a transverse section taken on the centre line 5 - - - 5 in Fig. 13, all of a modification of my said tube-expander, which may be actuated either by the central spindle or roller A, or by the rigid rolling-frame B, B', carrying the expanding rollers C, C, C." See diagrams and sketch, *ante*, p. 265.

<sup>3</sup> It was considered by *Palles*, L.C.B., in *Thomson v. Moore*, 6 R. P. C. 445, that this was the ground of Lord Cairns' decision. But see *Moser v. Marsden* (*post*, p. 374).

because some of the expressions in the original specification strongly bear upon the invention as it ultimately appeared." His lordship commented upon the alterations in the latter part of the specification (as set out above), and pointed out that the mention of a tapering plug as an expanding instrument *by preference* was struck out, and also the substitute of the toggle-jointed levers, leaving a tapering plug "or its equivalent by whose action the rollers are forced outwards in the tube." "The point (p. 42) which gave the characteristic to the whole, and which he justly called a point absolutely essential to his invention, was the tapering plug acting as an expander, driving out those cylindrical rollers placed around the plug, &c." At p. 43: "It would have been quite possible for the appellant, when he was specifying his invention, to have specified also a tool which would have the peculiarity of the instrument of the respondents. I have no means of knowing why he did not do so." At p. 44: "Here is a machine which is either the plaintiff's machine or differs from it only colourably. But underlying all that, there must be a taking of the invention of the plaintiff.<sup>1</sup> There used to be a theory in this country that persons might infringe upon the equity of a statute if it could not be shown that they had infringed the words of a statute; it was said that they had infringed the equity of the statute, and I know there is, by some confusion of ideas, a notion sometimes entertained that there may be something like an infringement of the equity of a patent." My lords, I cannot think there is any sound principle of that kind in our law; that which is protected is that which is specified, and that which is held to be an infringement must be an infringement of that which is specified. But I agree it will not be the less an infringement because it has been coloured or disguised by additions or subtractions, which additions or subtractions may exist and yet the thing protected by the specification be taken notwithstanding."

Lord *Hatherley* discussed the claim, and held (p. 48) it was for an expanding-tool consisting of three elements, "the rollers, roller-stock, and stock-expanding instrument." His lordship then compared the description with that before the amendments (as given above, *ante*, pp. 264, 266).

Lord *Blackburn* (at p. 53): ". . . But whether it is for the interest of one side or the other, I apprehend the duty of the Court is fairly and truly to construe the specification, neither favouring the one side nor the other, neither putting an unfair gloss or construction upon the specification for the purpose of saving a patent if it is said that the patent is void, nor putting an unfair gloss or construction upon it in order to extend the patent and make it take in something which you may think was an unhandsome taking of the fruits of his invention from the patentee, if it is not really an infringement of the patent. . . ." In discussing the meaning of "expanding instrument" in the amended specification, his lordship said (p. 55): "But when we

<sup>1</sup> This does not go so far as to say that every detail of a combination must be taken in order to infringe it: *Bristowe, V.C.*, in *Procter v. Bennis*, 4 R. P. C. 344. See also *Ellington v. Clark*, 5 R. P. C. 140.

<sup>2</sup> Quoted and followed in *The Ticket Punch Co. v. Colley's Patents*, 12 R. P. C. 185.



take, as I apprehend we are entitled to take, the old specification before the disclaimer in order to see what it means, that becomes still clearer. I say we are entitled to take it, for the object of a disclaimer is merely to take out and renounce part of what had been claimed before, and it would vitiate the new specification if by striking out that part you gave an extended and larger sense to what is left so as to make it embrace something which it did not embrace before." <sup>1</sup>

Lord *Gordon* (at p. 57) : ". . . Now, any amendment or alteration of a patent is a very dangerous proceeding ; and of course patentees feel that, because they are open to the observation that they are abandoning that which they claimed as their invention in a previous stage of the proceedings. I venture to think that the patentee in this case has fallen into that error, and that he has now exposed himself to the risk of having his original patent attacked by any person who can show that really he has made an improvement upon what may have been originally a valuable invention, and one which had been sought after by men of skill." His lordship referred to *Clark v. Adie* (*ante*, p. 259) as an illustration.

### Notes.

The foregoing case has been said to support the proposition that the claim covers what are described as the characteristic features of the invention, and such only : per Lord *Field* in *Miller v. Clyde Bridge, &c. Co.*, 9 R. P. C. 482. On the other hand, the essential features of the invention are not necessarily those which are so described in the specification itself. (See concluding extract from Lord *Cairns'* judgment above) : *Incandescent Gas Light Co. v. De Mare, &c.*, 13 R. P. C. 330.

By 5 & 6 Will. 4, c. 83, s. 1, a disclaimer could only be allowed when it was not "such disclaimer or such alteration as shall extend the exclusive right granted by the said Letters Patent ; and such disclaimer . . . shall be deemed and taken to be part of such Letters Patent or such specification in all Courts whatever. . . ." And by s. 39 of 15 & 16 Vict. c. 83, it was enacted, "Provided also, that such filing of any disclaimer or memorandum of alteration, in pursuance of the leave of the law officer in the first-recited Act mentioned" [5 & 6 Will. 4, c. 83], "certified as therein mentioned, shall, except in cases of fraud, be conclusive as to the right of the party to enter such disclaimer and memorandum, &c."

Besides *Dudgeon's* specification, many other amended ones have been construed by reference to the previous unamended editions (*e.g. Seed's, ante*, p. 212). Where there is a doubt as to whether the amended claim has a wider or narrower signification, it must be presumed that the amendment, by leave of the law officer, under s. 39 of the Act of 1852, did not "extend the exclusive right granted" originally, hence the claim must be construed not

<sup>1</sup> It was thought by *Bowen*, L.J. (*Van Gelder's Patent*, 6 R. P. C. 28) that Lord *Blackburn* meant that the leave to amend given by the law officer did not give validity to the amendments made and disclaimer ; but see final paragraph of the notes.

to go beyond the unamended one. This, it is submitted, is the principle underlying Lord *Blackburn's* observations above. The Act of 1883, s. 18 (9), replaces in different language the above provisions as to amendment; as to which see *Moser v. Marsden* (*post*, p. 374).

1878. BAILEY v. ROBERTON, 3 App. Ca. 1055

*Construction—Disconformity—Insufficiency.*

In 1866 a patent (No. 1707) was granted to *Medlock & Bailey* for "improvements in preserving animal substances."

The following was the provisional specification:—

"The object of the said invention is to preserve animal substances, such as meat, poultry, game, and fish, for a long time in a fresh state, so that when eaten they cannot be distinguished from the same when recently killed, and for the preservation of hides. For this purpose we dissolve the ordinary commercial gelatine in boiling water, using about two pounds of gelatine to ten pounds of water. We then add, while hot, a volume equal to the volume of the solution of gelatine of a solution of bisulphite of lime (usually expressed by the formula  $\text{CaO}, 2\text{SO}_2$ ) in water, of about the specific gravity of 1070. While the solution of gelatine and bisulphite of lime is still warm and liquid we coat the substance to be preserved with it, either by dipping the substance into it or by brushing it over with two or three coats of the solution. If the substance has to be transported any distance in wooden vessels, the vessels should be saturated with some of the before-mentioned solution of bisulphite of lime in water, and when dry brushed over with the said solution of gelatine and bisulphite of lime. When the solution of gelatine and bisulphite of lime has firmly solidified on the surface of the animal substance the latter may be packed, the vessel being closed as air-tight as possible. For the preservation of hides the interior surface only requires to be coated with the solution of gelatine and bisulphite of lime. The coating on the hides and the hides must be dried before they are packed. Before treating the animal substance other than hides as above, the viscera must be removed and the inside washed free from blood; it is then to be coated internally and externally as above described, and before it is cooked the coating of gelatine and bisulphite of lime must be removed by soaking it for a sufficient time in water."

The complete specification was as follows:—

"The nature of our said invention is to preserve animal substances, such as meat, poultry, game, fish, and other animal substances for a long time, and so that the same substances when so preserved, and although the animals from which the same are derived have been killed for a considerable time, cannot be distinguished when cooked from the like substances derived from similar animals which have been recently killed, and also for the preservation of hides.



"The manner in which our said invention is performed is as follows :— We employ a solution hereinafter distinguished as solution No. 1, being a solution of bisulphite of lime (usually expressed by the formula  $\text{CaO}, 2\text{SO}_2$ ) in water, of about the specific gravity of 1050, which specific gravity we find preferable to that of 1070. We sometimes form a solution, hereinafter distinguished as solution No. 2, by dissolving the ordinary commercial gelatine in boiling water, using from one part to two parts of gelatine in ten parts of water, and adding ten parts of solution No. 1." Then followed details as to the proportion of gelatine (which was to depend on the temperature of the place where the solution was to be applied), and as to the modes of application of No. 2 solution.

"For the preservation of animals without removing the skin or external covering thereof, and without removing hoofs or horns, we find it advantageous to employ a solution hereinafter distinguished as solution No. 3, formed by mixing one part of salt with ten parts of solution No. 1 and from six to ten parts of water." The proportions specified according to the temperature of the place where the solution was to be applied. Details as to application were given.

For the preservation of fish a fourth solution was described as "No. 4, formed by mixing ten parts of cold water, one part of salt, and one part of solution No. 1." Details as to its application were given, and also as to its use for preventing and arresting decomposition in meat, game, &c.

"When animal substances are to be transported dry in wooden casks or other wooden vessels, the interior of such casks or vessels should before use be saturated with solution No. 1, and then allowed to dry; but for this we make no claim."

"What we consider to be novel and improvements, and therefore we claim as the invention secured to us by the said in part recited Letters Patent, are—

"Firstly, the use of solution No. 1 for preserving animal substances."

The second, third, fourth, and fifth claims were for the uses of solutions Nos. 2, 3, and 4, "in manner hereinbefore described."

"But we do not claim the employment of gelatine or salt, nor of the processes of cleansing or injection, nor of air-tight vessels, except in connection with and in aid of solution No. 1, and for the purpose of preserving animal substances, nor do we claim the use of solution No. 1 except for the purpose of preserving animal substances."

Proceedings were taken before the Sheriff of Lanarkshire to restrain the respondent from infringing the above patent.

The alleged infringement consisted in the use of bisulphite of lime for the preservation of meat.

The chief defences were :—

1. That the use of bisulphite of lime was old, having been disclosed by *Rathay's* patent (No. 46 of 1861).

2. That there were no sufficient directions as to the application of bisulphite of lime as claimed in the first claim.

3. That there was disconformity between the complete and provisional specifications, inasmuch as the use by itself of bisulphite of lime was not disclosed in the provisional specification.

4. That if the first claim was only for the use of bisulphite of lime, as described in solutions Nos. 2, 3, and 4, there was no infringement.

The Sheriff decided in favour of the patentees on all points.

On appeal to the Court of Session.

The Court pronounced interlocutor to the following effect, *inter alia* :—

That the specification described the nature of the invention claimed by first claim, but did not describe or ascertain the manner in which it was to be performed; that the first claim claimed a different invention from that which was disclosed in the provisional specification, and that therefore the patent was invalid.

On appeal to the House of Lords.

*Held*, “that the complete specification, if large enough to cover the employment of bisulphite of lime for the preservation of animal substances as practised by the defenders, would claim an invention larger than and different from that disclosed in the provisional specification, and would be open to the objection of want of novelty and of want of a sufficient description of the manner in which the invention is to be performed.”

Per Lord *Cairns*, L.C., at p. 1061: “What is the meaning of the provisional specification in this case? What is the invention which is described in that provisional specification? That is the foundation of the whole claim of the appellants. Whatever be the invention which is there described, that is the invention which the appellants inform the Crown they have discovered, and in respect of which they ask for the protection of a patent—that is the invention in respect of which the patent is given to them; and, whatever be that invention, it became their duty to specify it, and not another or a different invention, in the complete specification.” His lordship thought that the original real invention consisted in the application of bisulphite of lime by means of gelatine. He pointed out that the use of bisulphite alone is only mentioned with regard to casks, and is expressly disclaimed. If claim one be read as merely a statement of the basis of the other claims, then there is no infringement, and the patent may be valid; but if it be construed to be a separate claim to the use of bisulphite alone, then it is too wide. He proposed the form of interlocutor above, in order that the question of construction and validity might remain open.<sup>1</sup>

Lord *Hatherley* pointed out (p. 1070) that the provisional specification all through dealt with the mixture of bisulphite of lime and gelatine, and “if the complete specification is really no more than carrying this invention into effect, it may, for all I know, be a fair foundation for a patent;” but in that case there would be no infringement. Hence the difficulty the patentees were in.<sup>2</sup>

<sup>1</sup> The judgment of Lord *Cairns* was fully quoted and followed in *Horrocks v. Stubbs* (by *Bristowe*, V.C.), 3 R. P. C. 231.

<sup>2</sup> Quoted and followed by *Bristowe*, V.C., in *Horrocks v. Stubbs*, 3 R. P. C. 231.



Lord *Blackburn* commenced his judgment (p. 1073) with a review of the reasons for the provisional specification under the Act of 1852. If the law officers were satisfied that the provisional stated the "nature of the invention," a certificate was granted, and the inventor might use the invention publicly without giving the public his discovery; "and when it came to be a question whether or no what he was doing during that six months did avoid the patent, I take it the process must have been to say, 'Look at the nature of the invention described in the provisional specification, and say whether this which you have been doing, and which you say was a part of the patent, is fairly within the nature of the invention you have described. In that case you are protected; but if it is a new and separate invention, and a different one, then you are not protected.'<sup>1</sup>

"I cannot but think that when that is once looked at, it becomes pretty clear that when the nature of an invention has been described in the provisional specification in the way which has been mentioned, if something were found out during the six months to make the invention work better or with respect to the mode in which the operation may be performed—a thing which is very likely to happen when, in carrying out his invention, the inventor finds that some particular bit will not work so smoothly as he expected, and it is necessary to add a little supplement to it—still the nature of his invention remains the same, and it is no objection that in the complete specification, which comes afterwards, the invention or application is described more particularly or more in detail, or even if it be shown that there has been more discovery made, and so as to make the invention which he has described in the provisional specification really workable."<sup>2</sup>

"If nothing more is done than that, I think it is good; but as soon as it comes to be more than that, and the patentee says, in the provisional specification, 'I describe my invention as A,' and in the complete specification he says, 'I hereby describe A, and also B,' then, as far as regards B,<sup>3</sup> it is void, because the Letters Patent were granted for the invention that was described in the provisional specification, and do not cover the invention that is described in the other."<sup>4</sup> His lordship dealt with the specifications and facts of prior user in detail, and was of opinion that the method of performing the invention as given in the first claim was insufficiently described.

<sup>1</sup> The rule, as given in this paragraph, has been quoted and followed in *Lucas v. Miller*, 2 R. P. C. 159; *Gadd v. Mayor of Manchester* (per Smith, L.J.), 9 R. P. C. 526.

<sup>2</sup> This paragraph was quoted and followed by *Fry, L.J.*, in *Crompton v. Patent Investments Co.*, 6 R. P. C. 294; it and the preceding one, in *Woodward v. Sansum*, 4 R. P. C. 174, 178.

<sup>3</sup> "As far as regards B" must mean "having regard to B." Per *Bristowe, V.C.*, in *Horrocks v. Stubbs*, 3 R. P. C. 231.

<sup>4</sup> This paragraph was followed by *Bristowe, V.C.*, in *Horrocks v. Stubbs* (*ibid.*).

The whole of the beginning of Lord *Blackburn's* judgment has been quoted and followed in the *United Telephone Co. v. Harrison*, 21 Ch. D. 743; and has been frequently referred to as containing an express declaration of the law on disconformity: *Horrocks v. Stubbs* (*ibid.*); *Moseley v. Victoria Rubber Co.*, 4 R. P. C. 248.

Lord *Blackburn* laid down nothing new, but only amplified the rule of earlier cases. *Siddell v. Vickers*, 5 R. P. C. 98.

## Notes.

The case of *Bailey v. Robertson* has been treated as an authority on the following points :—That if the invention in the two specifications be not the same, the patent is bad (*Nuttall v. Hargreaves*, 8 R. P. C. 454, per *Lindley*, L.J.); an improvement must be embodied in the complete specification, although it involve invention, unless it amounts to a distinct invention (*Brooks v. Lamplugh*, 14 R. P. C. 617); but one must not under cover of an "improvement" obtain protection for a new invention (*Gadd v. Mayor of Manchester* (per *Lindley*, L.J.), 9 R. P. C. 526).

That the test of infringement is whether use has been made of a characteristic part of the invention either as a whole, or a "subordinate whole." Per Lord *Field* in *Miller v. Clyde Bridge Steel Co.*, 9 R. P. C. 482.

*Bailey v. Robertson* does not authorize looking at the provisional for any purpose other than that of seeing whether the invention described in the complete is contained therein. *Hocking v. Hocking*, 4 R. P. C. 260.

*Newall v. Elliott* showed that logically the complete should be studied first, and provisional later; although Lord *Cairns*, L.C., and Lord *Blackburn*, above, apparently took the opposite course, they do not appear to have really done so in their reasoning. Per *Kekewich*, J., in *Siddell v. Vickers*, 5 R. P. C. 98.

1879. THE BRITISH DYNAMITE CO. v. KREBS, 13 R. P. C. 190.

*Construction of Claim—Subsidiary Claim—Sufficiency.*

In 1867 a patent (No. 1345) was granted to *W. E. Newton* for an invention (communicated by *Alfred Nobel*) of "improvements in explosive compounds and in the means for igniting the same."

The specification contained the following statement :—

"This invention relates to the use of nitroglycerine in an altered condition which renders it far more practical and safe for use. The altered condition of nitroglycerine is effected by causing it to be absorbed in porous unexplosive substances, such as charcoal, silica, paper, or similar materials, whereby it is converted into a powder, which I call dynamite, or Nobel's safety powder. By this absorption of the nitroglycerine in some porous substance it acquires the property of being in a high degree insensible to shocks, and it can also be burned over fire without exploding." Then follow directions as to various methods of exploding the dynamite, one of them including the use of a strong fulminating cap. "In order to ensure a perfect stability in the nitroglycerine contained in the dynamite, the "porous substance before it is saturated with nitroglycerine is to be rendered alkaline by washing it with a solution of carbonate of soda or lime water, or analogous substance, in order to neutralize the acid and prevent any decomposition of nitroglycerine from taking place."



The claim was for: "The mode herein set forth of manufacturing the safety powder or dynamite herein described, and also the modes of firing the same by special ignition, as herein set forth."

At the trial one witness proved that his workmen made dynamite successfully from the directions in the specification alone. They first tried slate dust, and found it did not absorb a sufficient proportion of nitroglycerine; then they tried brick dust, and found it successful. No directions, other than those quoted above, were given for making dynamite. No witnesses were called to prove that they tried to make dynamite from the directions given alone and failed or were misled.

One means of explosion was well known as applied to other materials, and another had been used, by *Nobel* in 1864, for firing nitroglycerine.

It was held that the specification was sufficient, and the claim was good.

*Fry, J.*: "But I think the fair reading of that claim is to consider that it is a claim to the modes of user of the dynamite. Dynamite is to be used by explosion; and the modes of explosion, therefore, are merely the modes of user. I think to read otherwise would be to read it in order to defeat the patent, instead of reading it as a fair and reasonable man ought to read it."

This decision was reversed by the Court of Appeal on the grounds of insufficiency of directions, and that the claim was for a known mode of ignition, and was therefore bad.

On appeal to the House of Lords.

*Held*, that the specification was "sufficient;" that as the claim for modes of ignition was for igniting the dynamite made as described,<sup>1</sup> and as it did not enlarge the monopoly, the patent was valid.

Lord *Cairns*, L.C., alluded to the duty of the Court as regards ascertaining the nature of the invention from the specification, and continued (at p. 192): "The Court has then to inquire whether the manner in which the same is to be performed is sufficiently described in the specification to the comprehension of any workman of ordinary skill in the particular art or manufacture; and this the Court can best do by evidence of what workmen of that description have actually done under the patent. . . ." At p. 193: "The result of using slate and brick dust was this—it produced some very good dynamite. The scientific witnesses called by the appellants speak to the sufficiency, in their opinion, of the directions in the specification; but what is more material is, that I find no workman whatever, skilled or unskilled, produced on the part of the respondents, who states that he has been, or would be, misled by the specification, or unable to make dynamite by following its directions. I therefore come to the conclusion that there is no insufficiency in the specification."

As to the claim for ignition (p. 193): "An explosive substance like

<sup>1</sup> In *Deeley v. Perkes*, 13 R. P. C. 586 (5), Lord *Herschell* expressed the opinion that the finding was that the mode of ignition was not separately claimed.

dynamite would be of little or no utility unless there were means of bringing to bear upon it a method of detonating explosion which would be at once economical and easily applied. The method might be entirely new, or it might have been previously applied to other substances, but, unless the patentee could point out and place before the public some method which he could affirm by experiment to be capable of producing the desired result, he would have put before the public no complete invention at all. I look, therefore, upon the means of explosion, even assuming them to be known as applicable to other substances, to be part and parcel of the invention which the patentee was bound to give to the public as a complete invention; and I understand him to claim these means of explosion only as part and parcel of this invention. He does not, as it seems to me, claim the means of explosion *in gross*, but only as *appendant* to dynamite; and he would not be allowed, under this patent, to claim them for any other purpose."<sup>1</sup>

Lord *Hatherley* (at p. 196) pointed out that the use of the word "powder" intimated that the absorption was not to be carried on till a paste was produced. As regards the claim for ignition: "The worst that can be said in the way of objection to this is that there is surplusage. The objection of surplusage must be admitted to be one which ought, no doubt, to be very carefully avoided by a patentee. The worst that can be said adverse to the patent here is, that the patentee might have been quite content to sit still and say, 'Now, I have shown you how to make the dynamite, I have shown you what the dynamite is, and I have shown you how to set it off; that is the invention,' without mentioning firing in the claim. But then, as was well urged by the learned counsel in argument, it cannot be said that this claim deprives any human being, past, present, or to come, of any possible right they might otherwise acquire, because they could not acquire any right in the dynamite without laying themselves open to an infringement of the Letters Patent in respect to the use of dynamite."

Lord *Penzance* (at p. 198) pointed out that proportions could not be given, for the range of absorbent materials was so wide. The substance to be chosen would be the most absorbent relative to its cost. "This being the nature of the invention, to define proportions expressly would be impossible. They could only be defined—as they were in the specification defined—by results. These results were twofold; first, the nitroglycerine was to be completely absorbed or taken up in the porous substance; and, secondly, the result was to be a powder. . . . No doubt a trial, or perhaps more than one trial, might be necessary to ascertain how much nitroglycerine would be taken up by any given material; but this would not be experiment for discovery; it would be only working under a rule ascertained and defined by the patentee, and adjusting that general rule to the particular substance employed."

<sup>1</sup> Followed in *Parker v. Satchwell*, 18 R. P. C. 307.



As to the claim for ignition: "It was argued that the claim to it as a subject of a patent when applied to dynamite was to claim the application of an old method to a new material, within the principle of the well-known cases of *Losh v. Hague* (1 Webs. 202), *Kay v. Marshall* (*ante*, p. 190), and *Harwood v. G. N. Ry.* (*ante*, p. 204), and therefore rendered the patent void. But in all these and the like cases, the material or thing to which the old method or machinery was applied was itself a well-known thing, which the person using it had a right to use, and to which he had the right to apply, and would apply, without the exercise of any inventive powers, the method or machinery in question; whereas, in the present case, the mode of ignition is only claimed in its application to dynamite, which was a new substance protected by the patent, and which no one had the right to use at all except the patentee, or those acting under his assignment or license.

"In restricting, therefore, the public from firing his new material by this special form of ignition, the patentee was not excluding it from the exercise of any right it had previously possessed, or claiming a monopoly in that which was already public property. Having the right to the monopoly of all modes of using dynamite, and, which is the same thing, of all modes of firing it, of which modes this special ignition was only one, he cannot, I think, by specially claiming that one, be said to have invalidated his patent by excess of claim."<sup>1</sup>

His lordship expressed approval of and followed *Betts v. Neilson*.

### Note.

This case was followed by *Farwell, J.*, in *Parker & Smith v. Satchwell & Co., Ltd.*, 18 R. P. C. 307.

1881. HAYWARD *v.* HAMILTON, Griff. P. C. 121.

### Construction—Combination—Ingenuity.

This was an action for infringement of a patent (No. 2014 of 1871) granted to *E. L. Hayward* for an invention entitled "Improvements in pavement lights."

The invention is thus described in the specification:—

"This invention has for its object improvements in pavement lights.

"Pavement lights are commonly used to cover the areas in front of windows in the basements of buildings, and the object of my invention is so to construct them that they may not simply allow the light to pass through, but that they may also direct the light in an inclined direction into the rooms it is desired to light. For this purpose I glaze the frame of the pavement light with glass, which is moulded so as to be of a prism-like form on the under side, resembling to some extent in this respect the glasses which are often inserted into ships' decks to give light below.

<sup>1</sup> The validity of the patent is here based on the fundamental principle enunciated *ante*, p. 19; the reasoning applies to all "subsidiary claims" as defined, *ante*, p. 58.

"The form and arrangement of the prism is, however, entirely altered, in order that the light may be thrown forward in one direction, as already stated. One of the sides of the prism is upright or nearly so, and the other side is inclined to it at such an angle that the light passing through the upper surface may strike this inclined side and be reflected completely, or nearly so, within the prism, and issue from the upright or nearly upright side in the direction required. The sides of the prism may be flat or curved in a horizontal plane.

"I usually form the glasses to glaze pavement lights hexagonal on the upper surface, and fit them into an iron frame with corresponding hexagonal cells, but the glass may be made rectangular or of other form on the upper surface.

"DESCRIPTION OF THE DRAWINGS.

"Fig. 1 is a plan of a pavement light consisting of a cast-iron frame, in which are a number of hexagonal recesses, or the recesses might be square, or of other form.

"In these recesses pieces of glass, marked  $a$ ,  $a$ , moulded to fit the recesses, and of a peculiar form, are set.

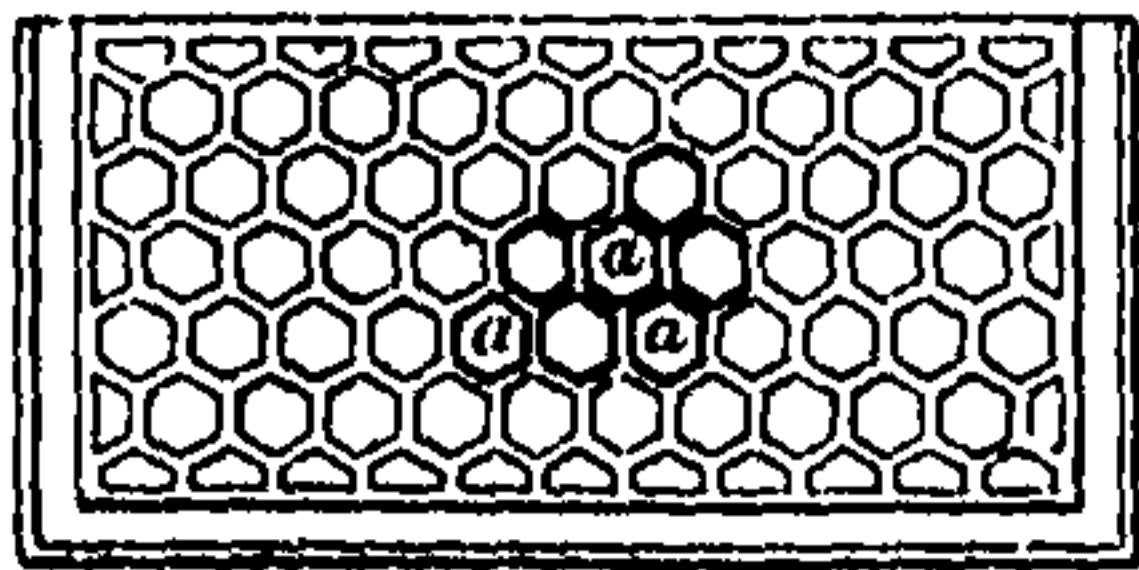


FIG. 1.

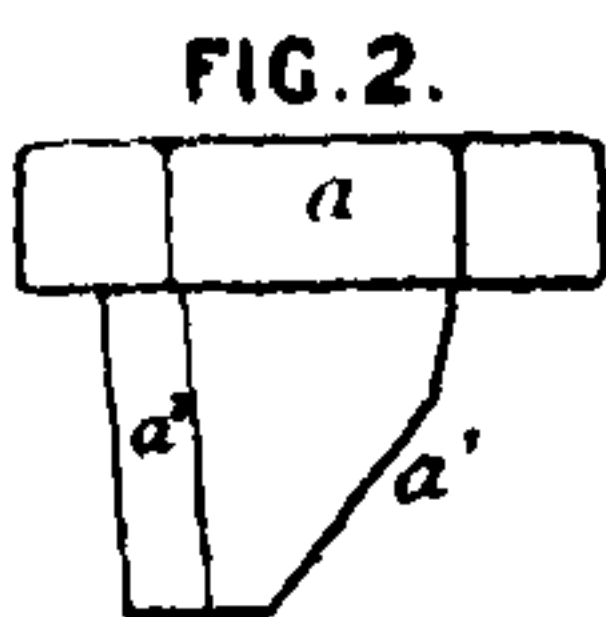


FIG. 2.

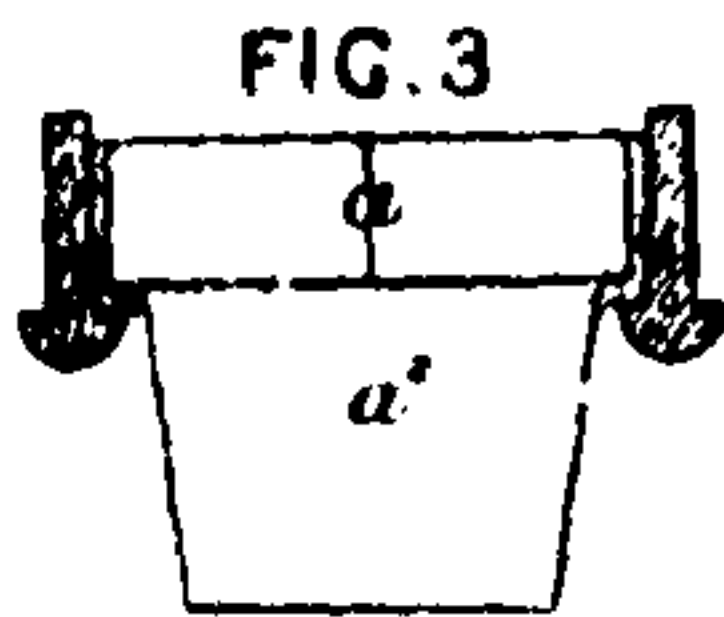


FIG. 3.

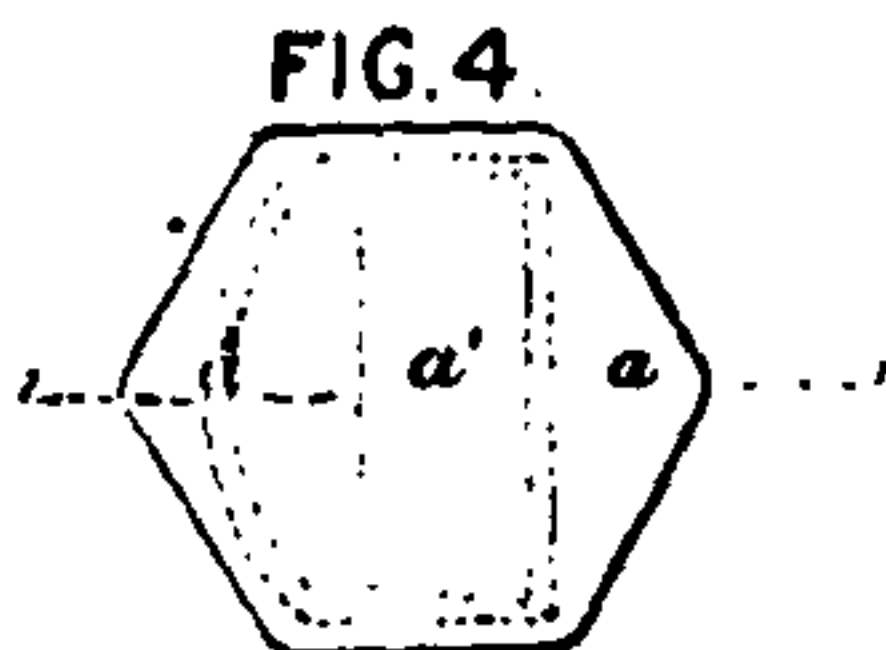


FIG. 4.

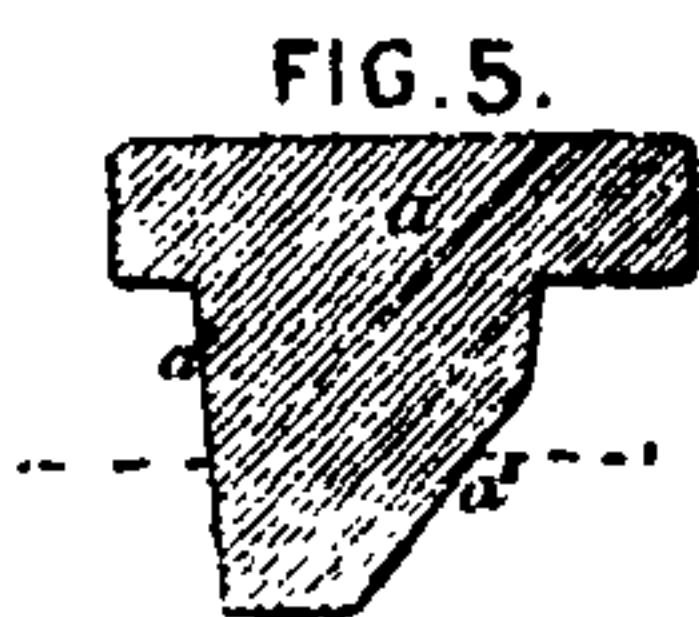


FIG. 5.

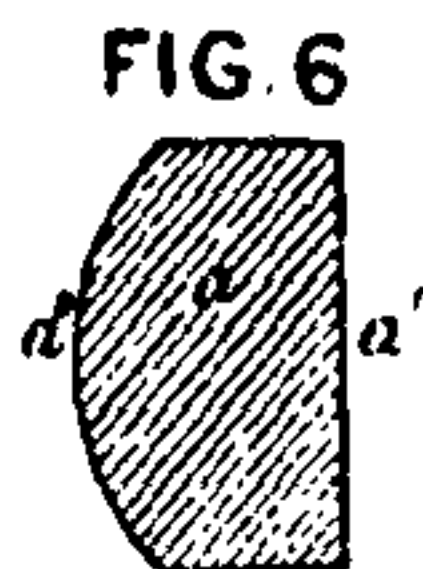


FIG. 6.

Diagrams from Hayward's specification (No. 2014 of 1871).

"Fig. 2 is a side view of one of these pieces of glass. Fig. 3 is a front view and Fig. 4 a plan of the same. Fig. 5 is a vertical section (taken on the line 1, 1, Fig. 4), and Fig. 6 is a horizontal section taken on the line 2, 2, of Fig. 5. The iron frame is also shown in section in Fig. 3.

"The inclined face  $a^1$  of the glass  $a$  intercepts a large proportion of the light descending through the glass, and it reflects the whole or nearly the whole of the light thus falling upon it into the room. The opposite face  $a^2$ , which is towards the room, is so formed as not to throw back the light, and so by far the larger proportion of the light falling on the face of the glass and passing through it, is directed into the room, whereas other pavement lights and deck lights allow of

an equal distribution of the light in all directions.

"Figs. 7 shew a modification of the form shewn at Figs. 2 to 6, the



principle, however, remaining the same;<sup>1</sup> that is to say, one side of the prism is considerably inclined, and the other, which faces the room, is vertical, or nearly so, by which arrangement the larger proportion of the light is directed into the room.

"The form shewn in Figs. 2 to 6 throws the light more directly forward than the form shewn by Fig. 7."

Fig. 8 shewed a glass which is rectangular on the face, but in other respects was similar to that shown at Figs. 2 to 6.

"What I claim is the construction of pavement lights substantially as described."

It was proved at the trial that at the date of the patent it was not a new thing to use a prism for the purpose of reflecting light. The light entered one side, struck another side at an acute angle, and being reflected completely or nearly so, issued from another side in the direction required. But no application of this principle had previously been made to pavement lights. One anticipation alleged was the use by a skilled optician of prisms in similar manner to receive a beam of light through an opening in a shut of a darkened room.

On an appeal for a new trial.

*Held*, that on the true construction of the specification the claim was for a combination of old things—the metal frame of a pavement light, the flanges thereon, and the prism to produce the new pavement light—and that there was sufficient ingenuity to support the patent.

*Bramwell*, L.J. (p. 116): "I think the plaintiff is an inventor. I think he has found out and manufactured and patented a thing, an article, namely, a light directing pavement light. I do not think there is any very great quantity of invention in it; it is not as though a man had sat himself down to consider how he could make a sewing machine, or a grass-pressing machine; it is a much humbler piece of invention than that, and it may possibly be nothing more than that the idea struck him, and immediately the idea struck him he could apply it or carry it into execution by a very obvious apparatus. But still it is an invention, and it is not the less an invention because it required but small inventive powers to enable him to do it. One may take an illustration in this way—the screw propellers. I suppose everybody knew that a screw, used as it was, would act in the way a screw propeller does; but the man who thought of it and applied it to a steamboat, which I suppose anybody could have done if the idea suggested itself to him, would have been called the inventor of a screw propeller or screw-propelling steamboat, as the case may be. It does not depend upon the quantity of the invention. Nor is it in this case the patenting of an idea. He does not say, 'I thought of such and such a thing, and I claim a patent for it;' but he says, 'I have thought of such a thing, and I will show you how to carry it into execution,' and therefore it is not open to any objection such as I have indicated; nor is it open to any objection in

<sup>1</sup> It is unnecessary to reproduce this modification

regard to the constituent parts being old. No doubt the prism, as the plaintiff uses it, is old; it is as old as the world that a prism used as the plaintiff uses it will direct light in the way his prism does, and the other part of his invention is not new, that is to say, the particular mode in which he makes his pavement light, but the combination is a novelty.<sup>1</sup>

"The thing was never practised before, and undoubtedly a combination of two old things may be made the subject of a patent. It seems to me that the plaintiff really is an inventor—he has found out something. He makes an article that was not made before. This particular case may be, no doubt, upon the verge; but one cannot help making this remark, that it is very strange if it is no invention that it has never been done before. Why has it never been done before? Why, because nobody else found it out, which I take to be equivalent to inventing, and I think, therefore, that his patent is sustainable."<sup>2</sup>

*Brett, L.J.* (p. 121): "In all previous cases it had been taken for granted that if the thing were new and useful, there must have been invention in order to arrive at a thing that can be so described, and I should say that in 999 cases out of 1000 that must be so. I say, if the thing is new and useful, it is impossible to suppose there is not sufficient to make an invention, but I do not think, as a matter of law, that could be predicated as an absolute rule of law.<sup>3</sup> . . . I think this machine is invented by the plaintiff and claimed by him as a new machine combined of old parts, or apparatus, or commercial article, whichever you please to call it, is new, that it is claimed as new, and therefore it is the subject-matter of a patent."<sup>4</sup>

### Notes.

This case has frequently been referred to as an example of the smallness of the amount of ingenuity necessary to support a patent (*e.g.* *Brereton v. Richardson*, 1 R. P. C. 168), and to shew that although very little may do, still there must be ingenuity involved: *Cotton, L.J.*, in *American Braided Wire Co. v. Thomson*, 5 R. P. C. 123; *Lopes, L.J.*, in *Blakey v. Latham*, 6 R. P. C. 189; *Cotton, L.J.*, in *Williams v. Nye*, 7 R. P. C. 67; and *Lindley, L.J.*, in *Gadd v. Mayor of Manchester*, 9 R. P. C. 524.

[The main feature distinguishing this pavement light from the old ones used in ships' decks consisted in the application of the principle of internal reflection of light. In the diagram here given AB represents a section of a surface common to two media, both of which are transparent. One of these (marked D) is the denser, and the other (marked R) is the rarer; *e.g.* D might represent glass or water, and R air. If a ray of light from the rarer

<sup>1</sup> This paragraph was quoted and followed by *Byrne, J.*, in *Reason Mfg. Co., Ltd. v. F. F. Moy, Ltd.*, 19 R. P. C. 416.

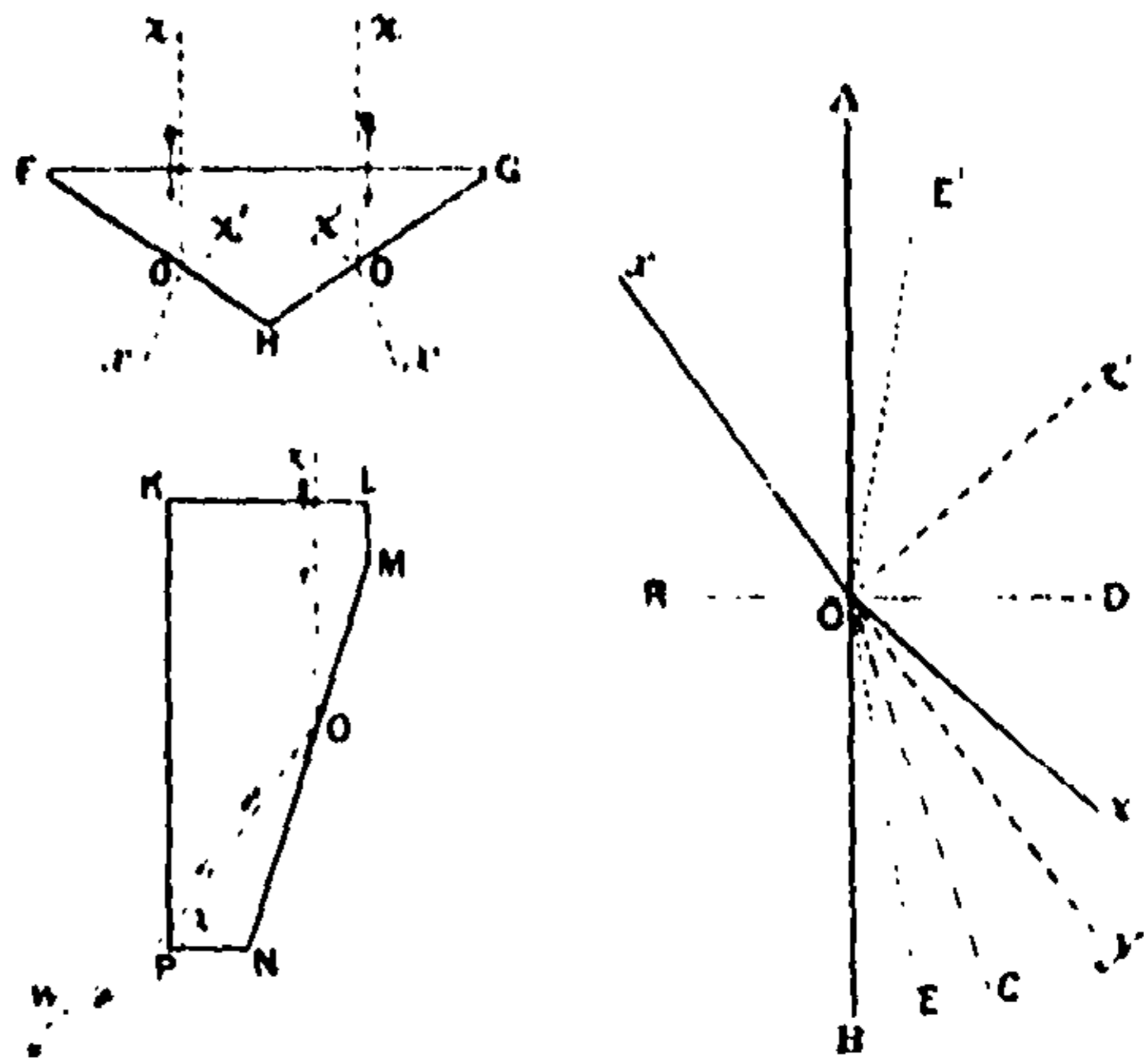
<sup>2</sup> This second paragraph was followed by *O'Brien, C.J.*, in *Pirrie v. York St. Flax Co.*, 11 R. P. C. 437.

<sup>3</sup> Quoted by *FitzGibbon, L.J.* (*ibid.*, p. 450).

<sup>4</sup> Quoted and followed by *Kennedy, J.*, in *Ducketts v. Whitehead*, 12 R. P. C. 191.



medium travel along  $xO$  it will not continue along in the same direction  $Oy$ , but be bent from the common surface  $AB$ , say along  $Oz$ . The amount of this change of direction depends on the coefficient of refraction of one medium as regards the other, that is, it depends on the relative velocities of light in the two media. Conversely, a ray of light travelling along  $zO$  will continue in part along  $Ox$ , and part reflected along  $Oz^1$ ,  $Oz^1$  and  $Oz$  making equal angles with  $AB$ . But a ray of light falling nearly along  $AO$ , in the rarer medium, will be bent along  $OC$ ; no light reaching  $O$  from the rarer medium can pass along  $OE$ , that is, in the angle  $BOC$ . This angle is the "critical angle" for the two media. Conversely all light-rays reaching  $O$  from the angle  $BOC$ , as, for instance, along  $EO$ , are altogether reflected along  $OE^1$ , rays along  $E^1O$  being totally reflected along  $OE$ . The eye placed at  $E$  cannot therefore see through the apparently transparent surface  $OA$ , but that surface appears as a reflector. For example, by placing the eye slightly below the level of the surface of water in a tumbler, it will appear like the surface of mercury.



Sketches of refracting and reflecting prisms. FGH, section of deck prism. KMN, section of reflecting prism.

Conversely all light-rays reaching  $O$  from the angle  $BOC$ , as, for instance, along  $EO$ , are altogether reflected along  $OE^1$ , rays along  $E^1O$  being totally reflected along  $OE$ . The eye placed at  $E$  cannot therefore see through the apparently transparent surface  $OA$ , but that surface appears as a reflector. For example, by placing the eye slightly below the level of the surface of water in a tumbler, it will appear like the surface of mercury.

In the older pavement lights the prisms were shaped somewhat like FGH,  $FG$  being the surface; the light was distributed by refraction, but not reflection, rays entering along  $zO$  being refracted into the room below along  $Ox$ , the portion reflected along  $Oz^1$  being useless. In the sketch here given,  $KMN$ , a ray along  $zO$  is totally reflected along  $Oz^1$  and emerges into the room (after refraction) along  $z^1w$ . *Hayward's* prisms are so shaped that the sides marked  $a^1$  act as perfect reflectors to all light-waves falling on them through the glass and within the critical angle for glass and air. But if the rays be outside that angle the greater part will still be reflected at the surfaces  $a^1$ .]

1882. UNITED TELEPHONE CO. v. HARRISON & CO., 21 Ch. D. 720.

*Disconformity—Publication.*

This was an action to restrain infringement of two patents, *Edison's* (No. 2909 of 1887), for "improvements in instruments for controlling by sound the transmission of electric currents, and the reproduction of

corresponding sounds at a distance," and the other, *Brown's* (No. 4765 of 1876), for "improvements in electro-telephony."

The former described in outline the invention in the provisional specification. Before drafting the complete *Edison* discovered the phonograph. The complete specification as amended had three claims: one for the mica diaphragm, the second for the combination of that diaphragm with "electric tension regulators," and the third for "the method herein specified of recording the undulations of the diaphragm or yielding material, and the reproduction of sound by such material acting upon a diaphragm to communicate to the same, vibrations similar to the original ones, substantially as set forth."

The objection raised to this specification was that of disconformity. The provisional specification described electrical arrangements, whereas the phonograph as claimed in the third claim had nothing to say to electricity.

An objection raised to *Brown's* patent was that it had been previously known and published in England under the following circumstances. A description of *Reis's* telephone was published in a German periodical in Berlin in 1862. This work was in the library of the Institute of Civil Engineers for seventeen or eighteen years before the date of the patent. This library was open to all members, of whom there were 1000 in 1864, and at a subsequent time 3000. The publication was entered in the catalogue only under the head "Journals." A witness proved that he saw the journal in question in 1876 in the Patent Office Library, and from his knowledge of technical terms and the drawings could (although ignorant of German) understand the invention therein described.

*Held*, (1) that the *Edison* patent was invalid, the phonograph not having been disclosed in the provisional specification; and (2) that, the description of *Reis's* telephone was "published" in England under the above circumstances.

### Notes.

This case has been frequently referred to as an example of a patent being invalid on account of "disconformity": *Horrecks v. Stubbs*, 3 R. P. C. 233; *Moseley v. Victoria Rubber Co.*, 4 R. P. C. 248; *Pneumatic Tyre Co. v. E. London Rubber Co.*, 14 R. P. C. 98. It was quoted as illustrating the correct mode of testing disconformity, namely, to read the complete first, and then the provisional, to find if invention is there: *Siddell v. Vickers*, 5 R. P. C. 98, 99; and *Gadd v. Mayor of Manchester*, 9 R. P. C. 260.

It is also an example of the rule that the question of "publication" is an inference from the facts proved in each case: *Harris v. Rothwell*, 3 R. P. C. 387. Publication to one person in this case being sufficient: *Lindley, L.J.*, and *Lopes, L.J.*, in same case on appeal, 4 R. P. C. 231, 233.



1882. OTTO v. LINFORD, 46 L. T. 35.

*Principle—Construction—Inventive Ingenuity—Combination—Sufficiency—  
Paper Anticipation.*

In 1876 a patent (No. 2081) was granted to *C. D. Abel* for an invention (communicated from *Dr. Otto* abroad) for improvements in gas motor-engines.

The specification was as follows<sup>1</sup>:—

“In gas motor-engines as at present constructed, an explosive mixture of combustible gas and air is introduced into the engine cylinder, where it is ignited, resulting in a sudden expansion of the gases and development of heat, a great portion of which is lost by absorption unless special provisions are made for allowing the gases to expand very rapidly.

“According to the present invention combustible mixture of gas or vapour and air is introduced into the cylinder together with air or other gas that may or may not support combustion, in such a manner that the particles of the combustible gas are more or less dispersed in an isolated condition in the air or other gas, so that on ignition instead of an explosion ensuing, the flame will be communicated gradually from one combustible particle to another, thereby effecting a gradual development of heat, and a corresponding gradual expansion of the gases, which will enable the motive power so produced to be utilized in the most effective manner. The mode of using the gases and the arrangement of the engine may be variously modified in carrying out this invention.

“Thus according to one arrangement the gases are introduced into the engine cylinder at atmospheric pressure. The cylinder is for this purpose provided with a slide having suitable ports for the admission of air and of an intimate mixture of combustible gas or vapour and air, and the movement of the slide is so regulated by means of a cam or eccentric on the engine shaft that during the first part of the stroke of the piston air alone enters the cylinder, while during a succeeding portion of the stroke the mixture of gas and air is introduced behind the air. This mixture in entering the cylinder will become more or less dispersed in the air previously introduced, the particles of the mixture being situated nearest together at the points where they enter the cylinder, and becoming gradually more dispersed as they mix with the air in front. A communication being now established by the slide between a small external gas-flame and the contents of the cylinder at the point where the combustible mixture is most dense, this ignites and the combustion of the whole charge takes place gradually, the mixture burning with gradually decreasing rapidity as the flame extends to those particles that are more diffused among the air. The gradual expansion of the gases thus produced causes the piston to complete its stroke,

<sup>1</sup> Only so much is given as is required to understand the points at issue. This abstract is made with the aid of original documents kindly furnished by Messrs *Faithfull & Owen*.

and on the return stroke, which may be effected either by the momentum of the fly-wheel or by the introduction of a similar charge at the other end of the cylinder, the products of combustion are expelled through a valve, after which the above-described operation is repeated for the next stroke.

“According to another arrangement the combustible gas and air or other gas are employed in a compressed state in the engine. For this purpose the engine may operate either as above described, the gas and air being simply compressed to the requisite degree before being introduced into the cylinder, or by preference the compression is effected in the cylinder itself in the following manner:—The cylinder is constructed of greater length than the stroke of the piston, so that there is a space beyond the latter when it is at end-stroke. Assuming this space to be filled with a portion of the gaseous products of combustion resulting from the last stroke at atmospheric pressure, the piston in performing one part of its stroke draws in atmospheric air, after which it will draw in the combustible mixture during the remainder of its stroke. The cylinder will then be filled with three strata of different gases, more or less intermingled at their junction, namely, a stratum of products of combustion next the piston, then a stratum of air, and lastly the combustible mixture. The piston then performs its return stroke, whereby the gaseous charge is compressed into the before-mentioned space at the end of the cylinder. The gases will in this condition still retain their stratified position, the particles of combustible mixture being diffused to a certain extent through the other strata. The charge is now ignited and burns gradually, and with the same effect as described with reference to the first arrangement. On the return stroke the products of combustion are expelled with the exception of the quantity contained in the space at the end of the cylinder.

“The regulation of the power of the engines operating according to the above-described invention is effected simply by admitting more or less of the combustible gas for each charge, this being done by regulating the time of opening and closing of an admission valve on the gas supply pipe. The motion of this valve is regulated by a rotating cam capable of being adjusted longitudinally on its shaft by any suitable known arrangement of governor.

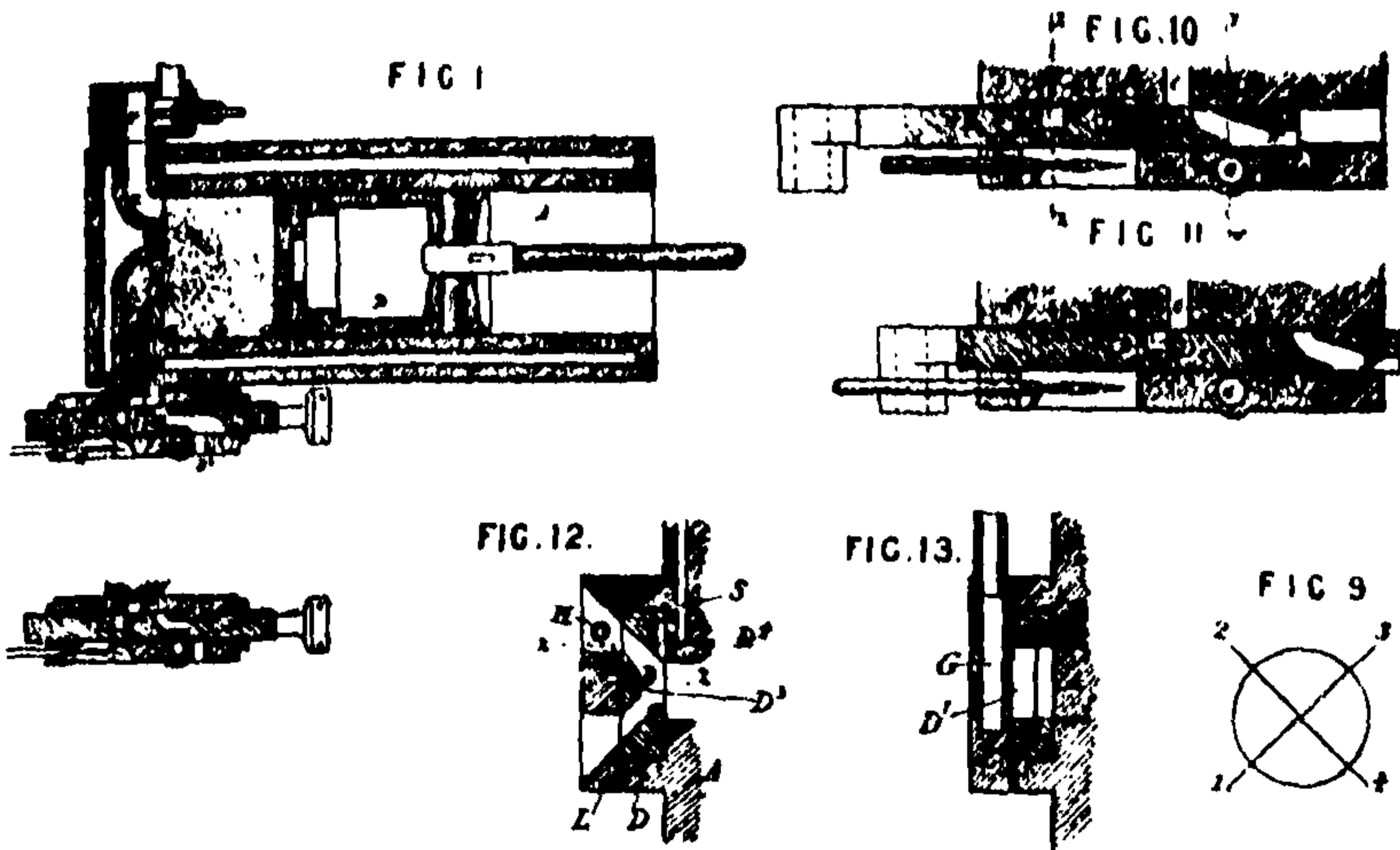
#### “DESCRIPTION OF THE DRAWINGS.

“In the accompanying drawings Fig. 1 shows a longitudinal section of an engine cylinder, A, having a piston, B, connected to a fly-wheel shaft, an inlet passage, C, controlled by the slide D,<sup>1</sup> and a passage, E, for the emission of the products of combustion closed by a valve, F. When the piston is at the end of its in-stroke, its inner surface being at  $\alpha$ , the slide D is in such a position that, as the piston begins its out-stroke, air entering by the aperture D<sup>2</sup> passes by D and C into the cylinder. When the piston has reached the

<sup>1</sup> In the drawing here given, Fig. 1 is shown as in the amended drawing filed with the original by order of the Master of the Rolls on the 6th of March, 1883. The original slide as drawn was unworkable, and is shown underneath Fig. 1. The error is an obvious one.



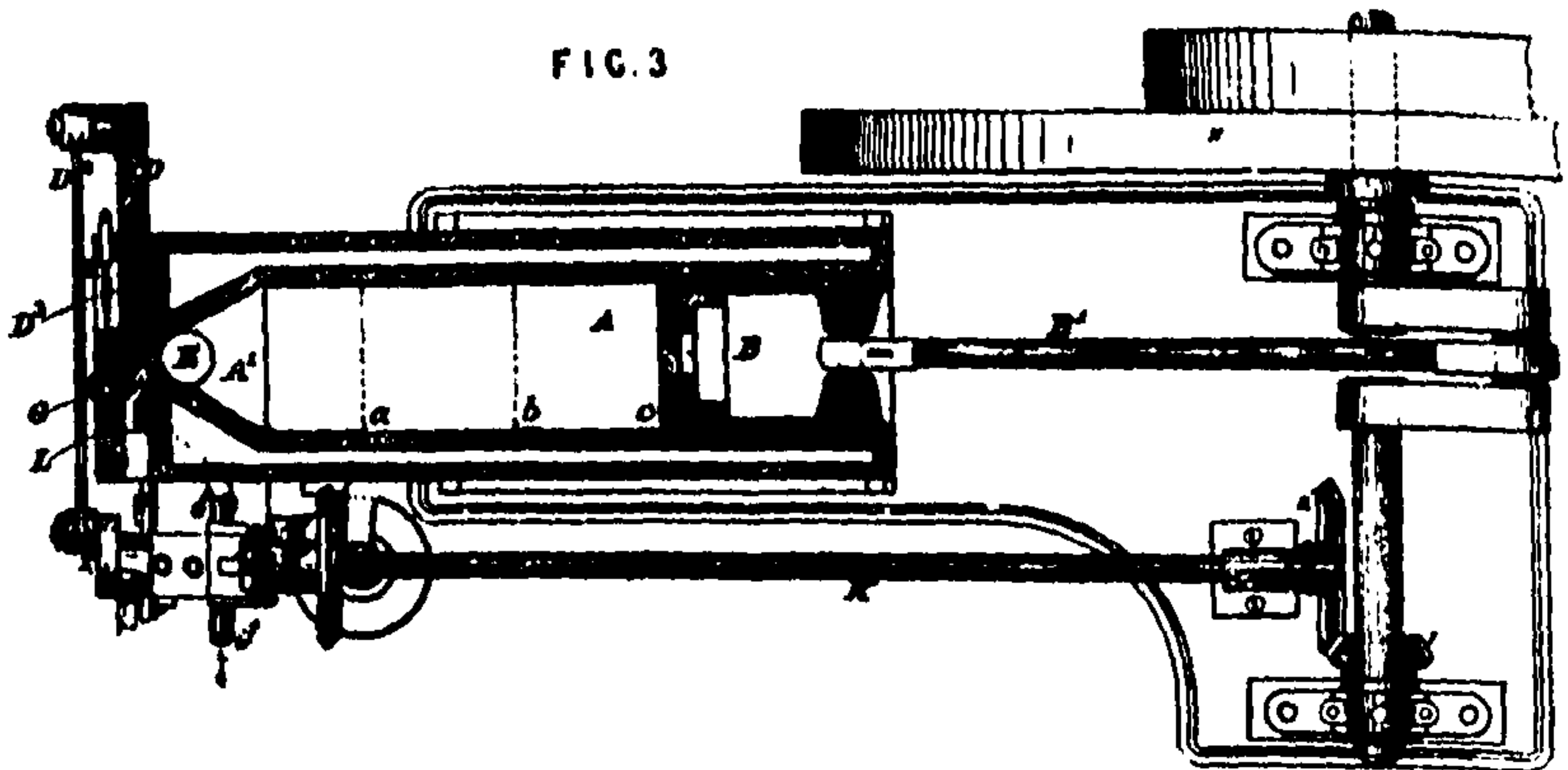
point *b* the slide has moved so as to admit combustible gas or vapour from the passage *G* to mix with the entering air until the piston reaches the point *c*, when the slide has moved back to the position shown, cutting off the gas and air supply and about to establish a communication between a small gas-flame, *H*, and the charge in the cylinder. The combustible gaseous mixture



From Abel's specification (No. 2081 of 1870).

entering the cylinder behind the air previously admitted, becomes partially mixed therewith, being thus dispersed more and more towards the piston, as indicated by the dots in the drawing, which represent the combustible particles. On the ignition of the charge the combustion at and near the port *C* is comparatively rapid, but as the ignition extends towards the front of the charge it proceeds more and more slowly, owing to the greater dispersion of the combustible particles. The gradually increasing pressure thus produced by the gradual expansion of the products of combustion, and also of the surrounding fluid, due to the heat evolved, causes the piston to complete its out-stroke, imparting motion to the fly-wheel, the momentum of which causes the piston to perform its return stroke, expelling the products of combustion through the valve *F*, and also causing the piston to commence its next out-stroke and draw in a fresh charge of air and gas. In order to vary the power of the engine the charge of gas or the proportion of the air and gas or vapour may be varied, and such variations may be controlled by means of a governor, as will be presently described. . . . Fig. 3 is a sectional plan. . . . This engine being single acting, the cylinder *A* is open in front, at its closed back end it has, beyond the stroke of the piston *B*, a space, *A'*, preferably of conical form, tapering to the inlet port *C*, and also communicating by a passage, *E*, with a valve, *F* (Fig. 3), for discharging the products of combustion. The piston *B* is connected by the rod *B'* to the crank shaft *I*, on which is a bevel pinion, *I'*, in gear with a

bevel wheel,  $K^1$ , on a shaft,  $K$ . On the other end of this shaft is a crank,  $K^2$ , connected by a link,  $D^2$ , to the slide  $D$ , which governs the admission of gas and air to the cylinder. The gearing  $I^1$ ,  $K^1$ , is proportioned as 2 to 1, so that the crank  $K^2$  makes one revolution, and consequently the slide makes one to-and-fro motion while the piston makes two double strokes. When the piston is at the point  $a$ , the end of its in-stroke, and about to be moved outwards by the momentum of the fly-wheel  $M$ , then the slide  $D$  (the construction of which will be hereafter explained) is in a position to admit air through the passage  $D^1$  and port  $C$  into the cylinder until the piston reaches



From Abel's specification (No. 2081 of 1876).

the point  $b$ , when the slide attains such a position that combustible gas is drawn in together with air until the piston reaches the end of its out-stroke, as shown in Fig. 3. As before explained with reference to Fig. 1, the combustible mixture, in partially mingling with the air previously introduced, is more and more dispersed towards the front.

“The slide having now closed the inlet port  $C$ , the piston is caused by the momentum of the fly-wheel to perform its in-stroke, compressing the charge of gas and air into the space  $A^1$  behind  $a$ , the combustible particles remaining in nearly the same unequally distributed condition as before compression. The slide now moves so as to admit the gas-flame  $H$ , igniting the charge, and the combustion produces a gradual development of heat and expansion of the gases, whereby the piston is caused to perform its out-stroke, imparting fresh momentum to the fly-wheel. This momentum again causes the piston to perform its in-stroke, expelling the products of combustion through the valve  $F$ , which is opened by a lever,  $F^1$ , acted on by a cam,  $F^3$ , on the shaft  $K$ . As the piston only moves back to  $a$ , a portion of the products of combustion remaining in the cylinder will partially mix with the air drawn in at the next out-stroke, but as the combustible mixture afterwards introduced can burn independently of the gas surrounding its particles, the presence of these products of previous combustion will merely aid in



preventing too rapid or explosive combustion and in acting as a cushion between the combustible charge and the piston. It will be evident that if the space  $A^1$ , or a separate chamber such as an air-vessel communicating therewith, be made sufficiently large to contain the whole quantity of incombustible fluid requisite for each charge, no fresh charge of air need be drawn in at the commencement of the stroke. As before stated, the power of the engine may be regulated by regulating the quantity of combustible gas introduced at each charge."

The action of the governor and the gas-slide was next described. The construction and mode of operating the slide D for admission of air and gas were described as follows:—

"Figs. 10 and 11 represent longitudinal sections on the line  $s, s$ , of Fig. 12 of the slide D and its casing, shewing the slide in two different positions. Figs. 12 and 13 are transverse sections respectively on line  $X, X$ , and  $Y, Y$ , of Fig. 10. Fig. 9 represents diagrammatically the path of the crank  $K^2$ , in which the part 1 to 2 represents the motion of the slide during the time that the piston in its out-stroke is drawing in the gaseous charge, the part from 2 to 3 the motion during the compression of the charge by the return stroke of the piston, 3 to 4 the motion during the working out-stroke of the piston, and 4 to 1 the motion during the expulsion of the products of combustion by the last in-stroke of the piston. Fig. 10 shows, first, the position of the slide at the point 1 of the crank path when the air-passage  $D^1$  is just about to communicate with the port C; and, secondly, its position at point 2, when the gas and air supply is just cut off. Although in the first position the gas-passage G is about to open, the gas-slide P prevents the admission of combustible gas until the requisite charge of air is first introduced. Fig. 11 shows, firstly, the position of the slide at the point 3 when the flame of the gas-jet H is about to be communicated to the gaseous charge by a small quantity of ignited gas in the passage  $D^3$ ; and, secondly, its position at the point 4 when the escape-valve F is about to be opened."

The mode of ignition was next given in detail.

The claims were:—

"First. Admitting to the cylinder a mixture of combustible gas or vapour with air separate from a charge of air or incombustible gas so that the development of heat and the expansion or increase of pressure produced by the combustion are rendered gradual, substantially as and for the purposes herein set forth.

"Second. Compressing by one in-stroke of the piston a charge of combustible and incombustible fluid drawn into the cylinder by its previous out-stroke, so that the compressed charge when ignited propels the piston during the next out-stroke, and the products of combustion are expelled by the next in-stroke of the piston, substantially as herein described."

The third related to the governor, and the fourth the construction of the engine as shown in the drawings.

At the trial a number of alleged anticipations were set up. These

showed that engines very like the plaintiff's had been constructed which admitted air and gas, but none of them admitted air alone at first to serve as a "cushion" to moderate the effect of the explosion.

The chief grounds on which the patent was attacked were:—

That the first two claims were for a principle and not for new machines.

That no directions were given as to the relative proportions of gas and air necessary for a successful result.

That the first engine (at atmospheric pressure) was not fully described, no eccentric on escape valve and no mode of ignition shown.

That the diagrams were misleading, inasmuch as the slide, if made as drawn,<sup>1</sup> would not do what was described at all.

No evidence was given to show that any competent workman failed to make an engine from the description. It was proved that a skilled workman would put in the eccentrics, and easily alter the hole for ignition in No. 1, and would cut away the slides to do what was required. Previous engines without the cushion of air had been failures.

The patent was upheld.

On appeal it was held that Claim 1 was for a mode of carrying out the principle enunciated, Claim 2 was for a combination of the process of compression, which was old, with the introduction of the cushion of air, and that the objections all failed.

*Neilson v. Harford* (*ante*, p. 187) was followed as to "invention."

*Jessel*, M.R. (at p. 39), defined "benevolent interpretation" as follows:—"When the judges are convinced that there is a genuine great and important invention, which, as in some cases, one might almost say, produces a revolution in a given art or manufacture, the judges are not to be astute to find defects in specifications."<sup>2</sup>

As regards subject-matter here: "If you have a new principle, or a new idea, as regards any art or manufacture, and then show a mode of carrying that into practice, you may patent that; though you could not patent the idea alone, and very likely could not patent the machine alone, because the machine alone would not be new."<sup>3</sup> The learned judge illustrated this by referring to the facts in the case of the hot blast in iron manufacture [see *Neilson v. Harford*, *ante*, p. 187], and continued: "Now that is a much stronger illustration than this" (*i.e.* the gas-engine) "of the validity of a patent as regards the subject-matter. For here is a complicated machine. Nobody says that this identical machine has ever been seen before; but what they do say, and I have no doubt is true, is that, given the state of knowledge as regards mechanics, you do not want much

<sup>1</sup> See note, *ante*, p. 284.

<sup>2</sup> This passage was quoted by *FitzGibbon*, L.J., in *Pirrie v. York St., &c.*, 11 R. P. C. 450. It was followed in the above judgment by some remarks to the effect that there ought to be a bias in construction in favour of meritorious inventions; a view which has never been judicially supported, and (when quoted in argument) has been expressly dissented from by Lord *Halsbury*, L.C., in *Cassel Gold Extracting Co. v. Cyanide, &c.*, 12 R. P. C. 242.

<sup>3</sup> Quoted in *Pirrie v. York St., &c.*, 11 R. P. C. 450.



invention, when you are told what the idea is, to find out this machine and carry it out. That did not require invention at all. In the case of the hot blast the man did not pretend to invent anything; he said a machine of any shape in which you can heat air is sufficient. Mr. *Otto* does allege he has invented a machine. It appears that he did, although a machine which *per se* was not of sufficient novelty to support Letters Patent. It comes, therefore, to this, that we have a principle and the mode of carrying it out, and I will assume for this purpose sufficiently described; and that is a good subject for a patent."<sup>1</sup>

*Brett, L.J.* (at p. 44): "What is the rule when you rely upon a description in writing as being an anticipation? It seems to me that it is not sufficient to say that if a machine were made by a person who had read that writing, something in that machine would, if it had been really a machine used, have been by reason of that user an anticipation of the plaintiff's patent. You must go further where you allege that the anticipation is in writing, and in writing only, and you must show that a person—I mean a person conversant with such matters—reading that writing would find in the writing alone a reasonably clear description of the plaintiff's invention. . . . He has to find a description of his own invention on the face of that writing, construing that writing reasonably as describing an invention."<sup>2</sup>

### Notes.

Although each case must be dealt with on its own merits (*Haslam v. Hall*, 5 R. P. C. 11), yet *Otto v. Linford* has been referred to as a precedent as illustrating and supporting the following propositions:—Paper anticipations must be examined critically (*Ellington v. Clark*, 5 R. P. C. 141); very little utility will support a subsidiary claim (*Ehrlich v. Ihlee* (per *Bowen, L.J.*), 5 R. P. C. 455); there may be invention in applying old things to a new use (*Gadd v. Mayor of Manchester*, 9 R. P. C. 264); a competent workman must be able to make the invention from the specification (*Moser v. Marsden* (per *Smith, L.J.*), 10 R. P. C. 363).

1884. MOORE v. BENNETT, 1 R. P. C. 142.

#### *Construction—Combination—Sufficiency of Claim.*

A patent (No. 3394 of 1877) was granted to *A. W. Moore* for "improvements in machines for cutting and trimming the hairs or bristles of brushes."

<sup>1</sup> The whole of this paragraph was quoted *in extenso* and followed by *Stirling, L.J.*, in *Ashworth v. Eng. Card Clothing Co., Ltd.*, 19 R. P. C. 471.

<sup>2</sup> The rule here laid down has been quoted and acted upon in *Gadd v. Mayor of Manchester* (per *Smith, L.J.*), 9 R. P. C. 533; *Moser v. Marsden*, 10 R. P. C. 212; *Cassel Gold Extracting Co. v. Cyanide, &c.*, 12 R. P. C. 256; *Shrewsbury & Talbot Cab Co. v. Sterckx*, 13 R. P. C. 53; *Pneumatic Tyre Co. v. Leicester, &c.*, 16 R. P. C. 57.

The complete specification was as follows<sup>1</sup>:—

“My said invention consists in improvements in machines for cutting and trimming the hairs or bristles of brushes, whereby such operation is effected in a more expeditious, perfect, and economical manner than is the case when it is performed by hand, or by means of the apparatus at present in use.

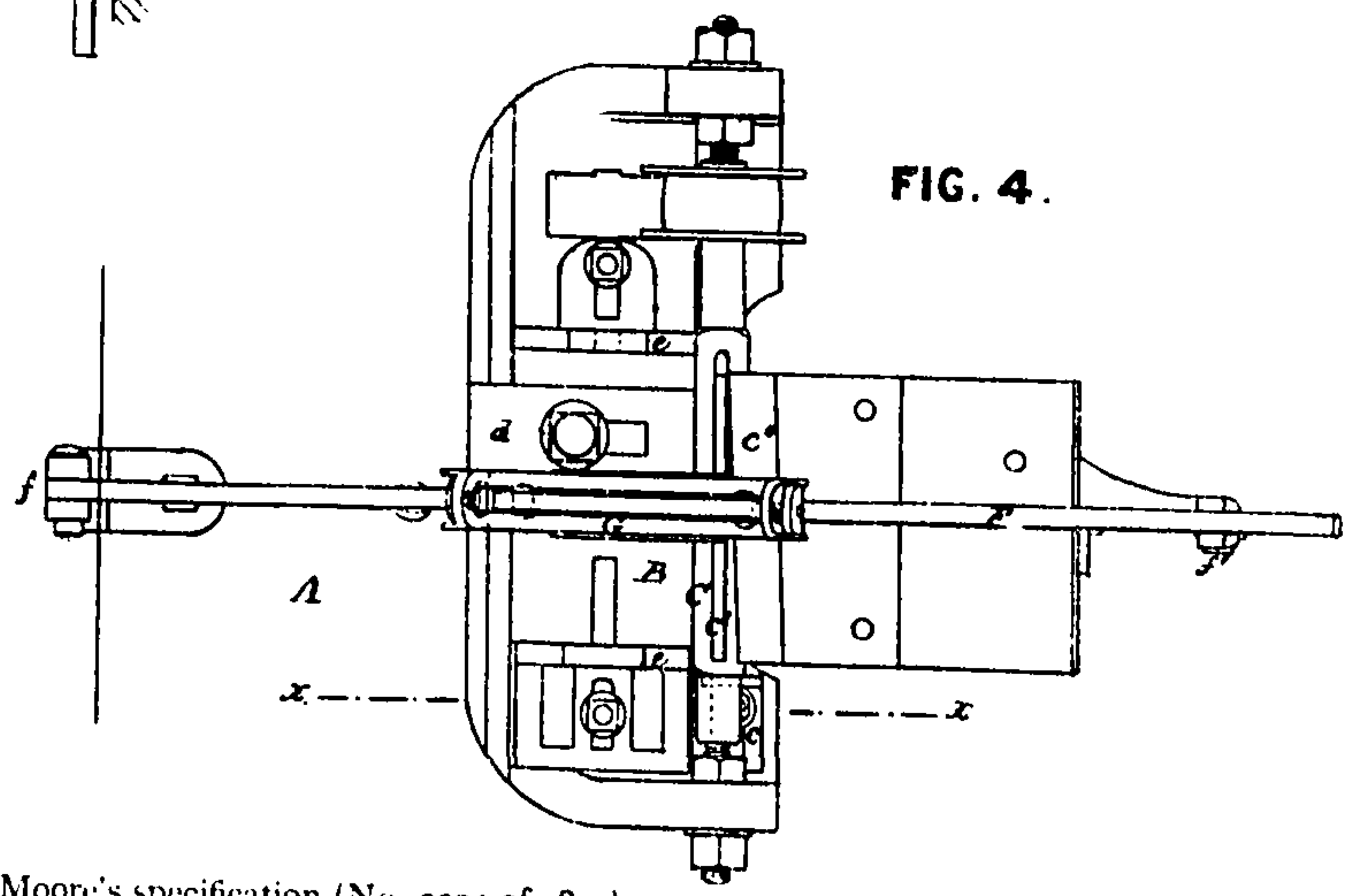
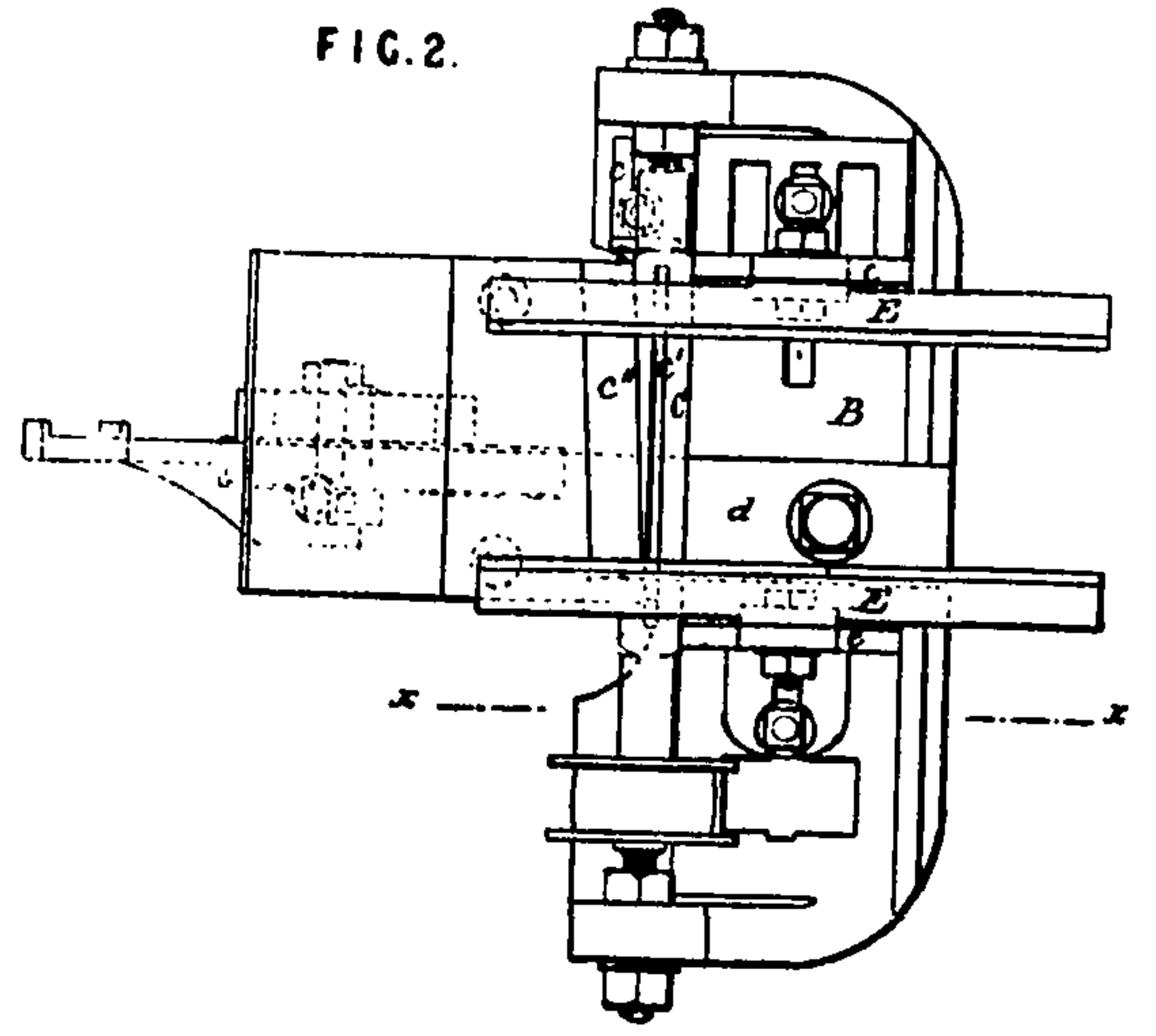
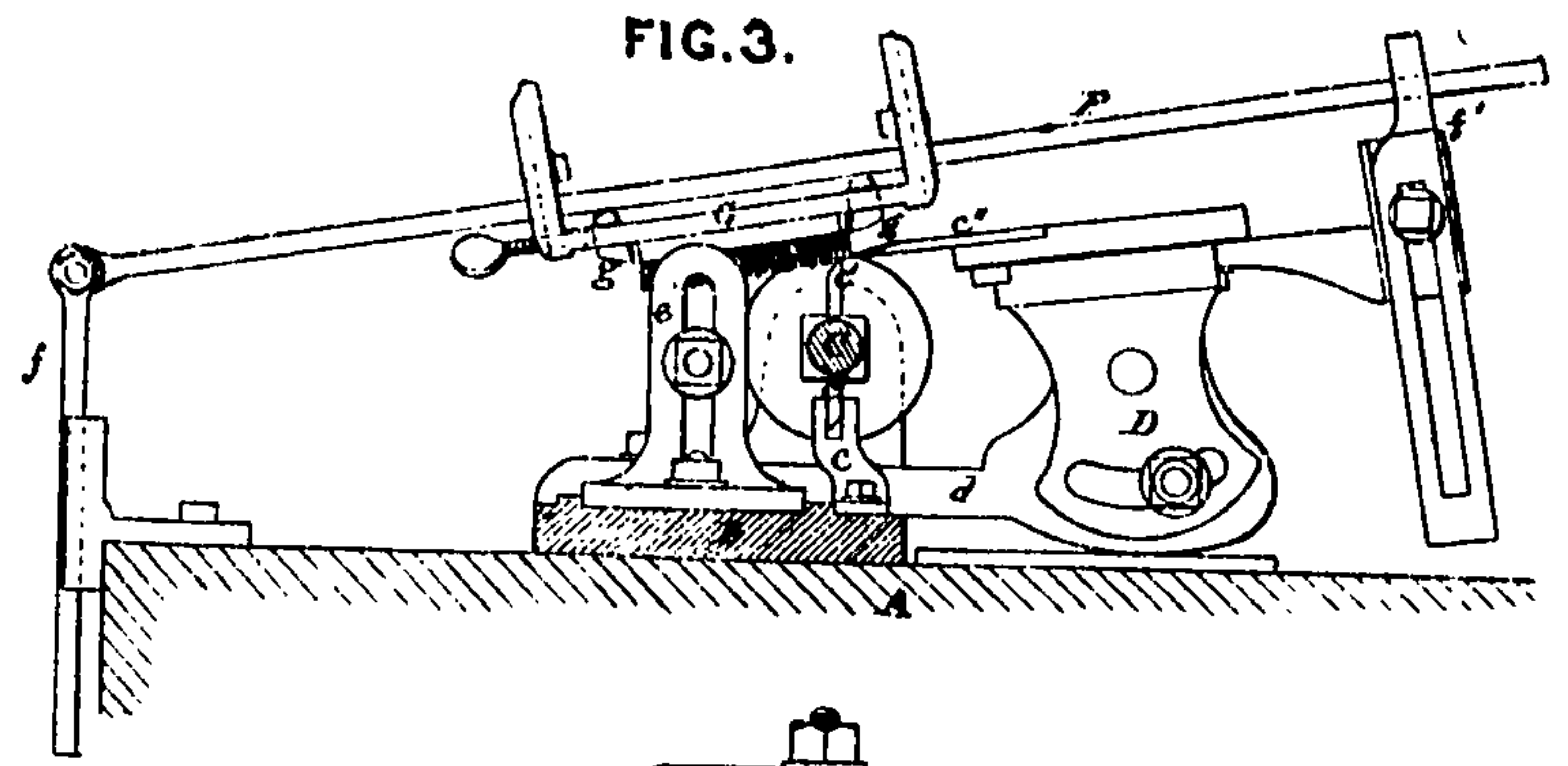
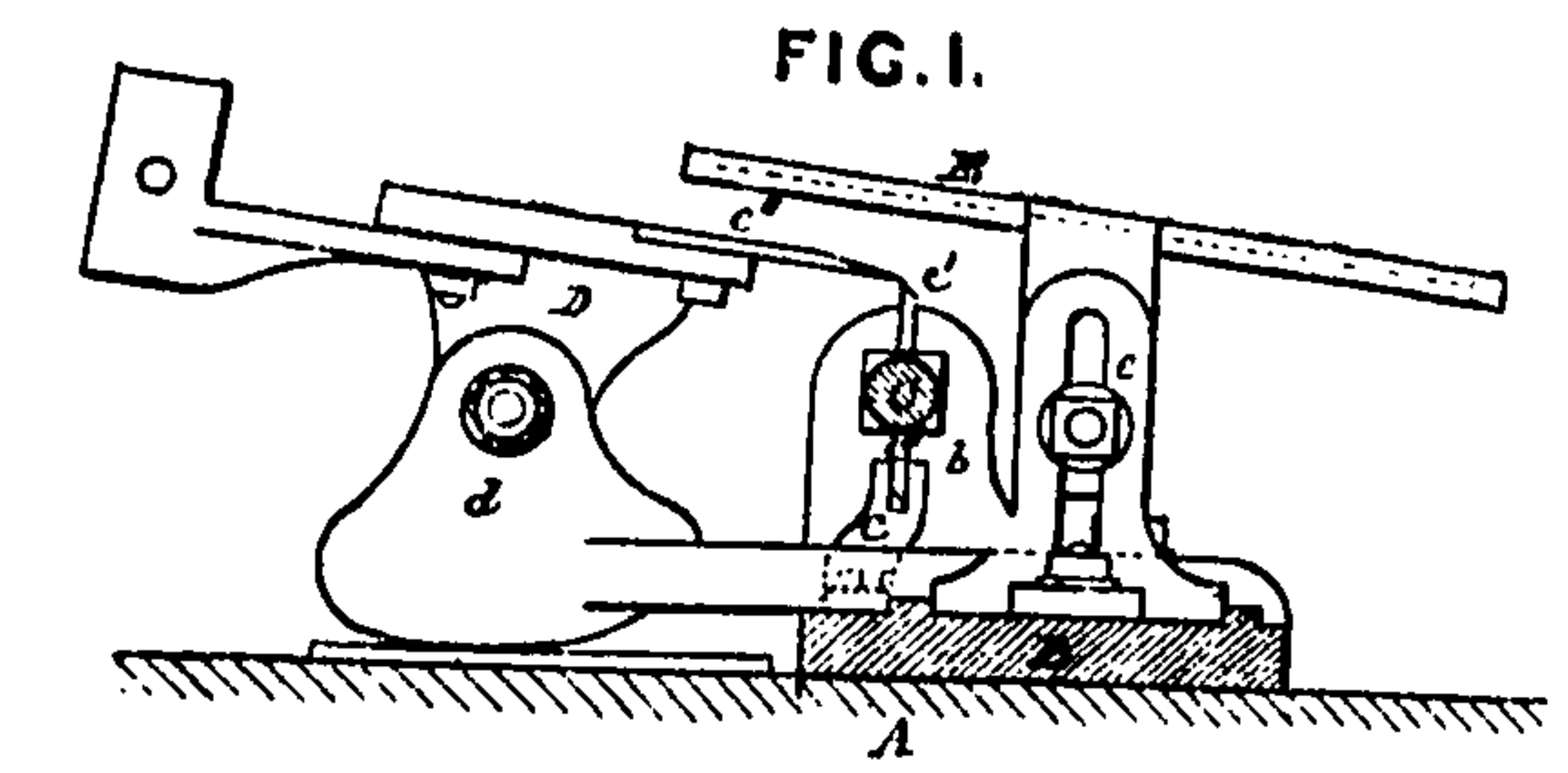
“The apparatus is, by preference, mounted on a table (*A*) of any desired form, and consists of a bed-plate (*B*) provided with bearings (*b*), having mounted therein an axle or spindle (*C*), furnished at one end with a drum or band-wheel. Through the centre of the said axle or spindle is a longitudinal slot for the reception of a metal plate, which is passed through and fixed therein in such a manner that the longitudinal edges thereof, which are shaped and formed for the purposes of cutting, project in a corresponding manner on each side of the axle. A horizontal cutting-plate (*c'*) is so arranged that on the before-described axle being caused to revolve the cutting-edges of the plate held therein will alternately come into close proximity to the cutting-edge of the said horizontal plate, the respective plates being so arranged, and the cutting-edges thereof bevelled in such a manner, that the said edges first come into close proximity only at one side, and then gradually to the other side as the axle revolves. The said horizontal cutting-plate is mounted by means of a centre pin and quadrant, so that it can be tilted as the cutting-edge wears away on a support, so constructed that the base thereof can be moved on the bed-plate of the machine and secured as required. Above the cutting-plates are provided suitable supports or guides (*E*) for the stock or frame of the brush, such supports or guides being so connected with uprights (*e*) having vertical slots therein that they may be raised, or lowered, or set at any angle, and secured in the desired position by means of screws and nuts. The said uprights may also be moved independently in a lateral groove formed in the bed-plate, in order to accommodate the supports or guides to any variation in the size of the stock or frame of the brush under treatment.”

The action of the machine was then described as arranged for cutting straight brushes.

“When it is desired to give a rounded surface to the hairs or bristles of the brush, the above-described supports or guides are removed, and above the plate, and at right angles to the cutting-edges thereof, is placed an inclined rod (*F*), the lower end of which is hinged or pivoted to a vertical slotted bar (*f*), which is connected with a support attached to the front of

<sup>1</sup> To facilitate reference, the letters referring to the drawings are inserted in this part of the specification. Fig. 2 is a plan of the apparatus arranged for flat surfaces. Fig. 1 is a side view through *x,x* of Fig. 2. Figs. 3 and 4 show the apparatus for rounded surfaces, Fig. 3 being a side view through the line *x,x* of Fig. 4. *A* is the table, *B* bed-plate, *b* bearings; *C* the axle, *c* a stop to prevent it moving when not in use, *c'* the cutter-plate therein, and *c''* the horizontal cutter-plate. *D* the quadrant, and *d* the support. *E, E* are guides for the stock of the brush, which are connected with the uprights *e, e*. In Figs. 3 and 4 *F* is the inclined rod, hinged to bar *f*, and the other end resting on the bar *f'*. *G* is the frame for holding the brush, and *g* the holders or clutches.





Diagrams from Moore's specification (No. 3394 of 1877).

the table by means of a screw-pin and nut in such a manner that the slotted bar, and consequently the lower end of the rod, can be raised or lowered as may be desired. The upper end of the inclined rod rests in a recess in the upper part of the slotted bar (*f'*) connected with the back part of the horizontal plate, and which bar may be raised or lowered in the same manner as that already described. Upon the above-described rod is loosely placed a ring or collar, to the lower part of which is attached a frame, or the said rod may be passed through slots in bars attached to the frame, the position of the rod in such slots being regulated by means of screws or other suitable contrivances. The frame is provided on the under surface with holders or clutches (*g*) for the purpose of securing the stock or frame of the brushes, the distance between such holders or clutches being made adjustable by means of nuts and screws, for the purpose of accommodating the same to any variation in the size of brush under treatment. On the brush having been secured in the manner above described, with the hairs or bristles downwards, it is placed immediately above the cutting-edges of the plates, the machine is set in action, and by oscillating the frame on the inclined rod, and moving it up and down the same, the desired form will be given to the surface of the hairs or bristles of the brush.

“When it is desired to give a concave, convex, or corrugated surface to the brush, the inclined rod is bent or formed accordingly, as will be well understood.”

The drawings were then described as in the note above (*ante*, p. 290).

The claim was for—

“The combinations and arrangements of parts and mechanism, substantially as and for the purposes hereinbefore described and set forth.”

In an action for infringement it was held at the trial that the specification sufficiently, by the claim, pointed out the nature of the invention.

On appeal,

*Held*, by the Court of Appeal, that the claim was for the combination of the entire machine, but that the patent was invalid because the novel parts in the invention were not pointed out.

On appeal to the House of Lords,

*Held*, that the patent was valid; the claim being for the whole combination, it was unnecessary to specify the novel parts more particularly, and that the claim did not include the use of cutter-plates without the guiding-rods.<sup>1</sup>

1885. GANDY v. REDDAWAY, 2 R. P. C. 50.

*Claim too large—Insufficiency.*

A patent was granted to *M. Gandy* (No. 1809 of 1877) for “improvements in and appertaining to belts or bands for driving machinery.”

The specification stated that the object of the invention was “to

<sup>1</sup> The essence of the invention consisted of the scissors-like action of the cutting-plates; this appeared to be the basis of the decision: *Useful Patents Co. v. Rylands*, 2 R. P. C. 264.



manufacture belts or bands for driving machinery of cotton canvas that will not give out by stretching, and which are not detrimentally affected by variations in the atmosphere, and at the same time are sufficiently pliable to allow of their running round small pulleys without cracking." The material to be used was described as "cotton canvas or duck, 'hard woven,' either in widths to suit the size of such belts or bands without folding, or in wider widths folded up so as to form the necessary thicknesses, &c." The size of pulley or machinery was mentioned.

The claim was for "constructing belts or bands for driving machinery of cotton or canvas duck, 'woven hard,' and stitched and saturated or soaked with oil such as linseed oil, or any combination thereof, as hereinbefore described or set forth, or any modification thereof."

It was proved at the trial for infringement that there were three kinds of cotton canvas, "woven hard," "medium," and "soft;" that there were subdivisions of each of these classes known to the trade; that out of the ten subdivisions of the "woven hard" class only No. 2 would do in practice. The inventor had used and discovered that No. 2 would do. No. 1 would crack on small pulleys, and Nos. 8, 9, and 10 would not be strong enough for large machinery. Although several numbers might be used for several kinds of belting, No. 2 was the only one that would suit for all sizes of belting.

*Held*, by the Court of Appeal, that the real invention was not described, and that the patent was therefore invalid.

1887. EDISON & SWAN UNITED ELECTRIC LIGHT CO. v. WOODHOUSE & RAWSON (1st Action), 4 R. P. C. 79.

*Pioneer Invention—Construction of Claims.*

A patent was granted (No. 4576 of 1879) to *T. A. Edison* for "improvements in electric lamps and in the method of manufacturing the same."

The complete specification<sup>1</sup> commenced with a short statement of the object and nature of the invention.

The object was the production of incandescent electric lamps having a "high resistance so as to allow of the practical subdivision of the electric light."

The invention was described as consisting of (1) "a light-giving body of carbon wire or sheets coiled or arranged" so as to offer "great resistance" to the current and present but a slight surface from which radiation could take place; (2) the placing of such light-giving body in a nearly perfect vacuum to preserve the conductor; (3) the current is conducted into the vacuum bulb through platina wires sealed into the glass; and (4) the method of manufacturing carbon conductors for the above purpose,

<sup>1</sup> The specification is here summarized in parts, sufficient being given *verbatim* to appreciate the decision, and that in the action of *Edison, &c. v. Holland* (*post*, p. 317).

and the manner of securing perfect contact between it and the leading wires.

The specification continued with a statement of what had been previously attempted in the same direction. Rods of carbon had been used of from one to four ohms' resistance, in glass vessels with a gas incapable of combining with carbon, the glass being cemented to a metallic base, and the rods clamped to the leading wires. The necessity for high resistance in the lamp compared to the rest of the circuit was pointed out, necessitating with such rods large conductors and consequent impossibility of keeping the globes air-tight. When a non-combining gas was used in the globe at atmospheric pressure, "air-washing" or attrition was produced by the passage of gas over the heated carbon.

The specification continued:—

"I have reversed this practice. I have discovered that even a cotton thread properly carbonized and placed in a sealed glass bulb exhausted to one-millionth of an atmosphere offers from one hundred to five hundred ohms' resistance to the passage of the current, and that it is absolutely stable at very high temperatures; that if the thread be coiled as a spiral and carbonized, or if any fibrous vegetable substance which will leave a carbon residue after heating in a closed chamber be so coiled, that as much as two thousand ohms' resistance may be obtained without presenting a radiating surface greater than three-sixteenths of an inch; that if such fibrous material be rubbed with a plastic compound composed of lamp-black and tar, its resistance may be made high or low according to the amount of lamp-black placed upon it. I have also discovered that carbon filaments may be made by a combination of tar and lamp-black, the latter being previously ignited in a closed crucible for several hours and afterwards moistened and kneaded until it assumes the consistency of thick putty. Small pieces of this material may be rolled out in the form of wire as small as seven one-thousandths ( $\frac{7}{1000}$ ) of an inch in diameter, and over a foot in length, and the same may be coated with a non-conducting non-carbonizable substance and wound on a bobbin, or as a spiral, and the tar carbonized in a closed chamber by subjecting it to high heat, the spiral after carbonization retaining its form. I sometimes roll a thread within the compound of lamp-black and tar, so as to allow of greater convenience in handling the same, and the flexible carbon filament is not so liable to crack by its own weight in the act of winding.

"To increase the resistance of the compound of lamp-black and tar, I sometimes work into it a volatile powder, such as powdered camphor, oxide zinc, but to make the light insensitive to variations of the current a considerable mass of matter should be used, in order that the specific heat of the lamp may be increased so that it takes a long time to reach its full brilliancy and also to die away slowly.

"To do this it is better to have the carbon as homogeneous as possible, and obtain the requisite resistance by employing a filament several inches long and winding the same in a spiral form, so that the external radiating



surface shall be small. All these forms are fragile, and cannot be clamped to the leading wires with sufficient force to ensure good contact and prevent heating. I have discovered that if platinum wires are used and the plastic lamp-black and tar material be molded around it, that in the act of carbonization there is an intimate union by combination and by pressure between the carbon and platina, and nearly perfect contact is obtained without the necessity of clamps, hence the light-giving body, and the platina wires are connected and ready to be placed in the vacuum bulb.

“When fibrous material is used the plastic lamp-black and tar is employed to secure it to the platina wires before carbonizing. By using the carbon wire of such high resistance, I am enabled to use fine platinum wires for leading wires, as they will have a small resistance compared to the light-giving body, hence will not heat and crack the sealed vacuum bulb.

“Platina can only be used, as its expansion is nearly the same as that of glass. By using a considerable length of carbon wire and coiling it in such a manner that only a small portion of its entire surface radiates light, I can raise the specific heat of the whole, and thus prevent the rapid reception and disappearance of the light, which on a plain wire is prejudicial, as it shows the least unsteadiness of the current by the flickering of the light, but if the current is steady, the defect does not show. I have carbonized and used cotton and linen thread, wood splints, paper coiled in various ways; also lamp-black plumbago and carbon in various forms mixed with tar and kneaded so that the same may be rolled out into wires of various lengths and diameters; each wire, however, is to be uniform in size throughout. If the carbon thread is liable to be distorted during carbonization, it is to be coiled between a helix of copper wire. The ends of the carbon or filament are secured to the platina leading wires by plastic carbonizable material, and the whole placed in the carbonizing chamber.”

The copper was to be subsequently removed by nitric acid, the bulb exhausted and hermetically sealed at a high vacuum.

Substances not easily distorted in carbonizing might be coated with some non-conductor, so allowing the coils to rest on each other.

In the drawings Fig. 1 is a section of the lamp, Fig. 2 the plastic material before being wound into a spiral, Fig. 3 the spiral after carbonization; *a* is the filament, *c, c'* its thickened ends, *d* the platinum wires, *h* the connecting clamps, *x* the leading wires sealed in the glass, *m* the tube to the vacuum pump, and *e* the outer conductors.

The claims were—

“First, an electric lamp for giving light by incandescence consisting of a filament of carbon of high resistance, made as described and secured to metallic wires as set forth.

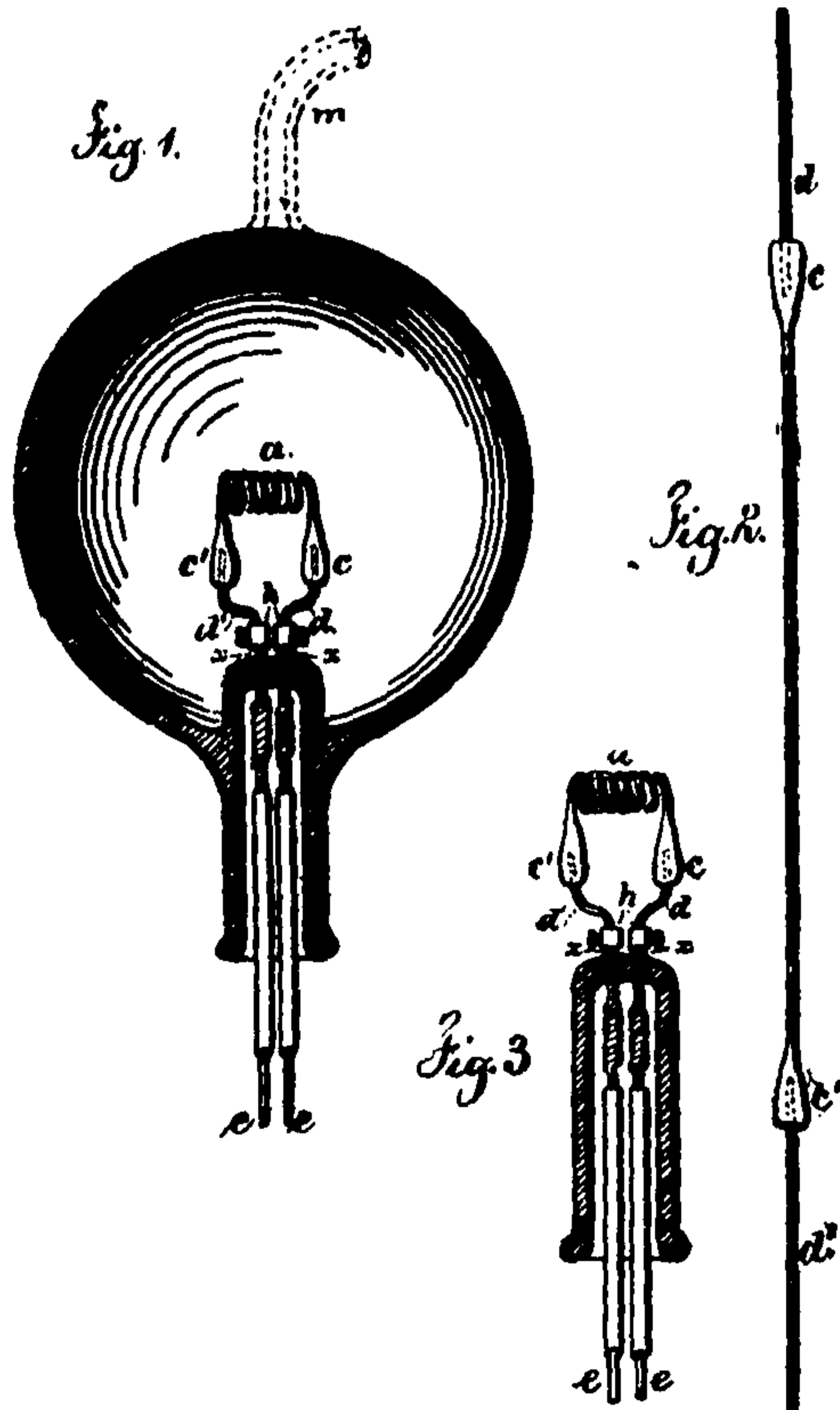
“Second, the combination of a carbon filament within a receiver made entirely of glass, through which the leading wires pass, and from which receiver the air is exhausted for the purposes set forth.

“Third, a coiled carbon filament or strip arranged in such a manner

that only a portion of the surface of such carbon conductor shall radiate light as set forth.

"Fourth, the method herein described of securing the platina contact wires to the carbon filament and carbonizing of the whole in a closed chamber, substantially as set forth."

At the trial of the action for infringement of this patent a large number of anticipations were alleged; in some the conductors were not of carbon, in



From Edison's specification (No. 4576 of 1879).

others carbon rods were used, being filed or otherwise made thin. It was proved that the conditions for success were well known, viz. that the heating of the circuit was developed in proportion to the resistance of each part, hence that of the incandescent part of the lamp must be relatively very great; that the resistance of each part depended on its material, and was proportional to its length and inversely as its cross-section; that the lighting effected depended also upon the specific heat of the conductor; and that carbon enclosed in a vacuum was an excellent material to use.

There was no evidence that any successful lamp had previously been



made except two made and exhibited by Mr. *Swan*. These had a straight carbon rod as conductor, between platinum wires hermetically sealed in the glass, which was exhausted so that it was practically a vacuum. The rod was not fine enough to be a "filament;" it bent owing to expansion, and broke down after some time.

The chief objections were raised to the second claim, and it was contended—

(1) That it was too wide if it included conductors other than those described in the body of the specification.

(2) That there was no sufficient description of what thickness or thinness constituted a "filament."

(3) That the invention was the use of old things in a known way, and that the mere alteration in size was not "invention."

The learned judge decided all points in the plaintiff's favour (3 R. P. C. 167).

*Held*, on appeal by the Court of Appeal (*Cotton*, L.J., dissenting)—

That the first claim was for the entire lamp.

That the second claim was for a combination consisting of five elements: (1) a carbon conductor, (2) in the form of a filament, (3) a receiver wholly of glass, (4) a vacuum, and (5) the entrance of leading wires through the glass.

That the third and fourth claims were for the other elements of the entire lamp (claim 1), not comprised in claim 2.

That it was not confined to the filament made as described in the body of the specification.

### Notes.

This case appears to be the first in which the claim in a "pioneer invention" has been construed in as wide a sense as it will bear.

The earlier failures did not point away from the use of carbon of very narrow cross-section in a vacuum, as it was well known that such a solution of the lighting problem was the true one, but they did not show a practical method of obtaining the light. The addition to public knowledge constituting the essence of the invention lay in showing the public *how to get* a carbon of the requisite thinness, and also in showing that by *adopting the horse-shoe shape* the danger of a breakdown (as in *Swan's* lamp) through expansion of the carbon could be avoided.

1887. EDISON & SWAN UNITED ELECTRIC LIGHT CO. v. WOODHOUSE & RAWSON (2nd Action), 4 R. P. C. 99.

#### *Construction of Claims—Sufficiency.*

A patent was granted (No. 4847 of 1878), to *F. J. Cheesbrough* for "improvements in and relating to electric lamps," [and to a method of charging such lamps with an artificial atmosphere *and purifying the same*],

and to the production of a carbon for use in electric lamps, [and for other purposes.]<sup>1</sup>

The object of the invention was described as twofold: an improved lamp, and the "production of a better carbon for the use of electric lamps." The drawings and lamp were described at length. The lamp consisted of a rod of carbon in an atmosphere of nitrogen. The defects in existing carbons were pointed out, the chief being want of homogeneity.

The new process of preparing carbons was then described as follows:—

"It has been found that a pencil of carbon immersed in a hydrocarbon gas or liquid, and heated to an extremely high temperature by the voltaic current, is not itself attacked, but decomposes the surrounding matter, the carbon of which enters and fills up its pores to an extent impossible except with matter in a very attenuated state, and deposits a perfectly homogeneous layer, generally of a bright grey colour, upon the exterior surface. As the carbon increases in size, more current is required to maintain its temperature, and if the current is gradually increased in accordance with the demand for it, there is appearingly no limit to the increase in mass of the homogeneous exterior deposit. Carbon pencils may be cut from this deposit, or the original pencil with its coating may be used in the lamps.

"In this process it will be seen that the carbon is never in contact with the liquid in which it is immersed, but surrounded by a carbonic gas of very high temperature. Beeswax, balsam, and most oils, if pure, operate satisfactorily; almost any hydrocarbon, in fact, will answer."

The mode of filling the globes with nitrogen gas had been described; the carbons were to be treated as above mentioned, thus: "let it be supposed that the pencil of carbon, held between two carbon pieces of greater mass than that of the pencil as above described, is immersed in the hydrocarbon liquid and heated in the manner already described, being then cleansed in alcohol, the pencil and its holders without having been disturbed are placed in the globe in which they are to be hermetically sealed.

"The globe is charged with pure nitrogen, and then while still allowing pure nitrogen to flow into and out of the globe, the carbon is heated to incandescence, thus driving out all impurities and occluded gases, which are carried out of the lamp by the current of nitrogen. With this operation the preparation of the carbon is completed, and the lamp now being hermetically sealed as above described, is ready for use."

The claims were—

"First, the herein-described method of preparing the illuminating part of an electric lamp consisting of electrically heating the same, while it is surrounded by a carbon gas or liquid.

"Second, a material for the manufacture of the illuminating conductors of electric lamps, produced by electrically heating carbon in a carbon gas.

<sup>1</sup> The specification was amended from Nov. 12, 1884. The words in brackets were struck out (as to which see *ante*, p. 167) from the title, and the description of the corresponding parts from the specification. Only so much of the amended specification is here given as is necessary to appreciate the question of "construction."



"Third, the hereinbefore described method of preparing the illuminating part of an electric lamp consisting in first obtaining a solid deposit of carbon by electric action as set forth, and subsequently when the globe containing it is charged with a carbon preservative atmosphere, before the flow of such preservative atmosphere through the lamp has ceased, and before the lamp is finally sealed, heating the illuminating part by means of the electric current, in order to expel impurities and occluded gases."

The plaintiffs were assignees of this patent and the invention in the manufacture of carbon "filament" lamps, under the Edison patent (dealt with in the preceding case). A filament not being of uniform cross-section, became hotter at some points than at others. By means of the above process, the carbon was deposited from the hydrocarbon just as required till the filament had a uniform brightness throughout.

At the trial of an action for infringement the main defence was: Invalidity on account of the specification being insufficient or misleading, as the terms "carbon gas" and "carbonic gas" would include CO and CO<sub>2</sub>, neither of which would suit.

The directions were alleged to be insufficient, but no evidence was called to show that a workman would be misled.

Judgment was given for the plaintiffs (3 R. P. C. 183). The defendants appealed.

*Held*, by the Court of Appeal, that the "carbon gas or liquid" in the first claim referred to such as was described in the specification, namely, not those "hydrocarbons" strictly so-called (compounds of C and H only), but those popularly included in the term which contained other elements in addition.

*Lindley, L.J.* (at p. 107): ". . . It remains to consider the objections to the specifications and claim. One is that the expression 'carbon gas or liquid' in the claim is ambiguous and too wide and misleading. It is urged that the expression includes carbonic oxide and carbonic acid, neither of which will do. But every claim in every patent must be read and construed with reference to the specification, and not as if the claim was an isolated sentence having no connection with or reference to that which precedes it.<sup>1</sup> To see what is meant by carbon gas or liquid we must turn to the specification, and when we do so we cannot conceive that any one reading the specification fairly, with a view to understanding it, would ever dream for a moment that carbonic oxide or carbonic acid would answer the purpose or could be meant by 'carbon gas.'"<sup>2</sup> P. 108: ". . . No doubt it is for the Court, and not for a workman, to construe the specification; but if a workman says it is a sufficient guide to him, and the Court believes him, the Court must hold that, as regards clearness of description, the specification is in point of law sufficient."

<sup>1</sup> Followed by Lord *Esher*, M.R., in *Edison Bell Phonographic Corp. v. Smith*, 11 R. P. C. 396; and by *Kay*, L.J., in *Parkinson v. Simon*, 11 R. P. C. 507.

<sup>2</sup> This whole passage quoted and followed by *Byrne, J.*, in *Reason Manufacturing Co. v. F. F. Moy, Ltd.*, 19 R. P. C. 415.

1887. WOODWARD v. SANSUM, 4 R. P. C. 166.

*Disconformity—Inclusion of Improved Invention.*

A patent<sup>1</sup> (No. 6209 of 1884) was granted to the plaintiff for "improvements in pen and pencil cases and other holders for like instruments and materials."

The specifications<sup>2</sup> were in the following terms:—

"My invention has reference to pen and pencil cases and other holders for like instruments and materials; that is, cases for holding pencils, crayons, solid aniline inks, knives, toothpicks, and the like, in the manner hereinafter described, whereby the part or movement carrying the writing material or instrument is projected or unsheathed by holding the case point downwards in a vertical position, and at the same time pressing a pusher-cap at the summit of the case. The nozzle of the movement carrying the lead or other instrument is projected by gravity from its case, and is held in such a position by relaxing pressure on the cap described, which then returns to its normal position, the nozzle of the movement protruding from the case or holder ready for use.

"When it is wished to enclose the nozzle of the movement within its case for protection or otherwise, it is only necessary to invert the case or holder with the nozzle pointing vertically upwards, when on again pressing the sliding-cap at the end of the holder, as described, the movement is liberated, and the part containing the lead or other instrument falls again by gravity or by its own weight into the interior of its case, and on ceasing to press the terminal sliding-cap the movement is suspended or fixed therein and the point of the lead or instrument projected.

"For convenience of description, I will describe my invention as applied to a pencil-case.

"Encased within the barrel of the pencil-case is a conductor-tube, in which the movement or part carrying the writing material freely slides or traverses. The said movement has a pin affixed at its upper part, which slides or moves within a quick spiral or helical slot running down the barrel of the said conductor-tube. This helical slot has top and bottom cross-slots, in which the pin of the movement takes for locking and suspending the said movement when in its projected or sheathed position.

"Working and sliding upon the conductor-tube described is a secondary or pusher-tube, which has at its summit a sliding-cap for operating the pencil-case. The said pusher-tube has a plain helical or spiral slot running longitudinally down its barrel, and which is of the same pitch as that in the conductor-tube; this slot in the pusher-tube has no top or bottom slots. The pin of the

<sup>1</sup> The action was brought for infringement of two patents. It is only necessary for the present purpose to refer to the second.

<sup>2</sup> To facilitate comparison, the two specifications are here given together. To read the provisional, omit all passages in square brackets and read the words in italics. The complete is read by omitting the words in italics and reading those in square brackets. The introduction of new matter and alleged disconformity are thus seen at a glance.